TECHNICAL SUPPORT DOCUMENT

Air Discharge Permit 23-3589
Air Discharge Permit Application CL-3241

Issued: July 6, 2023

COSTCO GASOLINE – STORE 1086

SWCAA ID – 2350

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Southwest Clean Air Agency

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ABBREVIATIONS

List of Acronyms

ADP ..... Air Discharge Permit
AP-42 ..... Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA
BACT..... Best available control technology
BART ..... Best Available Retrofit Technology
CARB ..... California Air Resources Board
CFR..... Code of Federal Regulations
EPA..... U.S. Environmental Protection Agency
EU ..... Emission Unit
EVR ..... Enhanced Vapor Recovery
LAER..... Lowest achievable emission rate
MACT..... Maximum Achievable Control Technologies
NESHAP..... National Emission Standards for Hazardous Air Pollutants
NSPS..... New Source Performance Standard
ORVR ..... Onboard Refueling Vapor Recovery
PSD..... Prevention of Significant Deterioration
RACT..... Reasonably Available Control Technology
RCW ..... Revised Code of Washington
SEPA..... State Environmental Policy Act
Standard ..... Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
SWCAA ..... Southwest Clean Air Agency
T-BACT ..... Best Available Control Technology for toxic air pollutants
WAC ..... Washington Administrative Code

List of Units and Measures

tpy ..... Tons per year

List of Chemical Symbols, Formulas, and Pollutants

CO ..... Carbon monoxide

CO_2 ..... Carbon dioxide

CO_2e ..... Carbon dioxide equivalent

HAP ..... Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act

NO_X ..... Nitrogen oxides

O_2 ..... Oxygen

PM ..... Particulate Matter with an aerodynamic diameter 100 µm or less

PM_{10} ..... PM with an aerodynamic diameter 10 µm or less

$PM_{2.5}$ ..... PM with an aerodynamic diameter 2.5 µm or less

SO_2 ..... Sulfur dioxide

SO_X ..... Sulfur oxides

TAP ..... Toxic air pollutant pursuant to Chapter 173-460 WAC

VOC ..... Volatile organic compound

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name:	Costco Wholesale Corporation
Applicant Address:	Costco Wholesale Corporation c/o Barghausen Consulting Engineers 18215 72nd Avenue South, Kent, WA 98032
Facility Name:	Costco 1086
Facility Address:	19610 SE 1st Street Camas, WA 98607
SWCAA Identification:	2350
Contact Person:	Alexia Inigues, Authorized Agent
Primary Process:	Gasoline dispensing
SIC/NAICS Code:	5541: Gasoline service stations 44719: Other gas stations (2012 NAICS) 45712: Other gas stations (2022 NAICS)
Facility Classification:	Natural Minor

2. FACILITY DESCRIPTION

This facility is a retail gasoline dispensing facility associated with a Costco Wholesale retail facility.

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) application number CL-3241 received June 5, 2023. ADP application CL-3241 requests approval to remove Stage II vapor recovery equipment at an existing gas station.

Air Discharge Permit 20-3387 will be superseded in this permitting action.

4. PROCESS DESCRIPTION

The facility receives unleaded gasoline from tanker trucks for storage in three 30,000-gallon underground storage tanks. Each storage tank is equipped with a two-point vapor balance system that returns gasoline vapors vented from the underground storage tank to the tanker truck during filling (Stage I vapor recovery). Gasoline is dispensed from 16 multiple product pumps. Each pump dispenses regular and super unleaded through a single hose. This facility does not sell diesel fuel. Vapors displaced from individual motor vehicle gasoline tanks during filling will not be returned to the gasoline storage tanks (no Stage II vapor recovery). A gasoline vapor processor has been installed to control gasoline vapors that would otherwise be vented from the underground storage tank when tank pressure rises above the pressure-vacuum valve setpoint.

Products at Pump	Number of Pumps
Regular or Supreme gasoline through a single hose	16

5. EQUIPMENT/ACTIVITY IDENTIFICATION

5.a. Storage Tanks. The following storage tanks are utilized at the facility:

Tank	Product	Capacity
1	Regular Unleaded	30,000 gallons
2	Regular Unleaded	30,000 gallons
3	Super Unleaded	30,000 gallons

The gasoline storage tanks are equipped with the two-point Phil-Tite Phase I Enhanced Vapor Recovery System approved in CARB Executive Order VR-101-L. The following components of this system have been installed:

Component	Make / Model
Drop Tube / Overfill Protection	OPW / 61T-7368
Fill Adapters[1]	Franklin / SFW-100-SS
Fill Caps	Morrison / 305C
Vapor Adapters[1]	Phil-Tite / SWV-101-SS
Vapor Caps	Morrison / 323C
Extractor Assembly	OPW / 233 (optional in this system)
Float Vent Valve	OPW / 53VML (optional in this system)
Spill Bucket	Unknown
Pressure / Vacuum Valve	Husky / 5885

[1] This is a two point system.

This facility will not utilize Stage II vapor recovery equipment. The following low permeation hoses and enhanced conventional nozzles will be installed:

Component	Make / Model
Nozzles	OPW / 14E
Hoses and Whip Hoses	ConiTech / Futura (a.k.a. Goodyear Low Permeation)

5.b. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Retail Gasoline Dispensing Facility	Stage I Vapor Recovery Systems

6. EMISSIONS DETERMINATION

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

(a) Continuous emissions monitoring system (CEMS) data;

(b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;

(c) Source emissions test data (other test method); and
(d) Emission factors or methodology provided in this TSD.

6.a. Gasoline Vapors. Total potential VOC emissions from the facility were estimated using the following emission factors from the California Air Resources Board December 23, 2013, document "Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities":

Emission Source	VOC Emission Factor (lb/1,000 gallons of fuel)
Loading – Stage I Controlled (EVR)	0.150
Breathing – Controlled with P/V Valve and vapor processor	0.024
Uncontrolled Refueling – Stage II uncontrolled (non ORVR Vehicles, no Stage II)	0.84[1]
Controlled Refueling (ORVR vehicles, no Stage II)	0.151[2]
Spillage (ECO nozzles)	0.240
Hose Permeation (low permeation)	0.009
Total	**1.414**

[1] Based on 90% of the gasoline being dispensed to vehicles equipped with carbon canisters (ORVR). The base emission factor, assuming no ORVR vehicles, is 8.400 lb/1,000 gallons. 10% of the vehicles are not equipped with ORVR: 8.4 lb/1,000 gallons * (1-0.90) = 0.84 lb/1,000 gallons.
[2] This is the amount of vapor released during refueling that is attributable to those vehicles equipped with carbon canisters (ORVR) assuming carbon canisters provide for 98% control. 8.400 lb/1,000 gallons * 90% of gas dispensed to vehicles with ORVR * (2% of vapors not captured by the canister) = 0.151 lb/1,000 gallons.

The above calculations assume that 90% of the fuel is dispensed to vehicles equipped with onboard refueling vapor recovery (ORVR). SWCAA expects this level was met in Clark County in 2020 and will be met a few years later in Cowlitz, Lewis, Skamania, and Wahkiakum counties.

At a throughput of 20,000,000 gallons of gasoline per year, the facility would emit 14.14 tons of volatile organic compounds. Based on EPA Speciate 3.2 profile number 2455, approximately 50.0% of the total VOC emissions are toxic air pollutants (TAPs) as defined by WAC 173-460 (as in effect August 21, 1998), and approximately 12.9% of the total VOC emissions are federally listed hazardous air pollutants (HAPs). For a throughput of 20,000,000 gallons per year, TAP and HAP emission rates are estimated at 7.07 tons per year, and 1.83 tons per year respectively.

6.b. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO_X	0	0
CO	0	0
VOC	14.14	3.82[1]
SO_2	0	0
PM	0	0
PM_{10}	0	0
$PM_{2.5}$	0	0
CO_2/CO_2e	0	0
Toxic Air Pollutants	7.07	1.91[1]
Hazardous Air Pollutants	1.83	0.49[1]

[1] Removal of Stage II vapor recovery at this facility, in combination with adding ECO nozzles and low permeation hoses will result in reduced emissions when the percentage of gas dispensed to ORVR-equipped vehicles surpasses 94.6%. The magnitude of the project impact presented here assumes a gasoline throughput of 20,000,000 gallons per year and that 90% of the fuel is dispensed to vehicles equipped with ORVR. By the end of 2023 SWCAA has estimated that 94% of gasoline dispensed in Clark County will be to ORVR-equipped vehicles.

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this ADP consistent with implementation of Best Available Control Technology (BACT):

7.a. Title 40 Code of Federal Regulations (CFR) Part 63.11110 et seq. Subpart CCCCCC "National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities" establishes emission control, testing, recordkeeping and reporting requirements for new and existing gasoline dispensing facilities. Which requirements apply to a specific facility depend upon when the facility began operation and the monthly throughput. This facility began operation prior to January 10, 2008 and has a potential throughput of 100,000 gallons per month or more. Facilities with a throughput of 100,000 gallons per month or more that began operation prior to January 10, 2008 must be in compliance with a state rule or federally enforceable permit that contains requirements to achieve emission reductions of at least 90% by January 10, 2008 or comply with requirements found in Table 1 of Subpart CCCCCC including:

(1) All vapor connections and lines on the storage tank shall be equipped with closures that seal upon disconnection;
(2) The vapor line from the gasoline storage tank to the gasoline cargo tank shall be vapor tight;
(3) The vapor balance system shall be designed such that the pressure in the tank truck does not exceed 18" w.c. pressure or 5.9" w.c. vacuum during product transfer;
(4) The vapor recovery and product adaptors, and the method of connection with the delivery elbow, shall be designed so as to prevent the over-tightening or loosening of fittings during normal delivery operations;
(5) Liquid fill connections for all systems shall be equipped with vapor-tight caps;
(6) Pressure/vacuum vent valves shall be installed on the storage tank vent pipes. The positive pressure setting shall be 2.5" w.c. to 6" w.c. and the negative pressure setting shall be 6" w.c. to 10" w.c. The total leak rate for all pressure/vacuum valves at an affected facility, including connections, shall not exceed 0.17 cubic foot per hour at a pressure of 2.0" w.c. and 0.63 cubic foot per hour at a vacuum of 4" w.c.;
(7) The vapor balance system shall be capable of meeting the static pressure performance requirement found in Table 1 of Subpart CCCCCC; and
(8) Each new or existing gasoline storage tank shall be equipped with a dual-point vapor balance system.

In addition, the facility must conduct testing as required by 40 CFR 63.11120, provide notifications as required by 40 CFR 63.11124, and maintain records and report as required by 40 CFR 63.11125 and 63.11126.

7.b. Title 40 CFR Part 1090 "Regulation of Fuels, Fuel Additives, and Regulated Blendstocks" in section 1090.1550(b) requires that the flow through any nozzle dispensing gasoline into motor vehicles be limited so as not to exceed a maximum value of 10 gallons per minute.

7.c. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 Ex. Sess.

7.d. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an ADP for installation and establishment of an air contaminant source.

7.e. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires Best Available Control Technology for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety from new sources not provided an exemption under

WAC 173-460-030. Gasoline dispensing facilities are exempt from the provisions of WAC 173-460.

7.f. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM_{10}, $PM_{2.5}$, lead, SO_2, NO_X, ozone, and CO in the ambient air, which must not be exceeded.

7.g. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO_2, concealment and masking, and fugitive dust.

7.h. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere.

7.i. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum.

7.j. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source." Sources wishing to modify existing permit terms may submit an ADP application to request such changes. An ADP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits.

7.k. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification.

7.l. SWCAA 400-111 "Requirements for Sources in a Maintenance Plan Area" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:

(1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
(2) Emissions will be minimized to the extent that the new source will not exceed emission levels or other requirements provided in the maintenance plan;
(3) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
(4) The proposed equipment will not cause any ambient air quality standard to be exceeded; and

(5) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in a maintenance plan area; therefore, this regulation applies to the facility.

7.m. SWCAA 491-040(4) "Gasoline Vapor Control Requirements – Gasoline Dispensing Facilities" establishes the following requirements:

(1) All gasoline dispensing facilities with an annual gasoline throughput greater than two hundred thousand (200,000) gallons in Clark County and three hundred sixty thousand (360,000) gallons in Cowlitz, Lewis, Skamania and Wahkiakum Counties shall be subject to gasoline Stage I vapor control requirements;
(2) All gasoline dispensing stations subject to this section shall be equipped with submerged or bottom fill lines and fittings to balance gasoline vapors with the delivery transport tank;
(3) The owner or operator of a gasoline dispensing facility subject to this section shall not permit the loading of gasoline into a storage tank equipped with vapor recovery equipment from a transport tank equipped with vapor recovery fittings unless Stage I vapor recovery equipment is attached to the transport tank and operated satisfactorily;
(4) Every retailer and wholesale purchaser-consumer shall equip each pump from which gasoline is dispensed into motor vehicles with a nozzle that dispense fuel at a flow rate not to exceed 10 gallons per minute;
(5) Stage II vapor recovery equipment compatible with ORVR may be removed from service beginning January 1, 2023 after an Air Discharge Permit has been issued for the modification; and
(6) New gasoline dispensing facilities (built after February 7, 2020), or existing gasoline dispensing facilities without Stage II vapor recovery, are not required to install Stage II vapor recovery equipment.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

New BACT Determination

8.a. Retail Gasoline Dispensing Facility. SWCAA has determined that Best Available Control Technology for the control of gasoline vapors emitted from new gasoline dispensing facilities with a throughput of more than 200,000 gallons per year in Clark County consists of EVR Stage I vapor recovery equipment as tested and approved by CARB, enhanced conventional nozzles (where Stage II is not in place), and low permeation hoses if throughput could exceed 1,400,000 gallons per year and liquid gasoline is carried against the outermost hose wall.

The applicant will continue to utilize Stage I enhanced vapor recovery equipment with an Arid Permeator to manage tank pressure and will install low permeation hoses and enhanced conventional nozzles when the Stage II vapor recovery systems are removed. This configuration meets the requirements of BACT.

Previous BACT Determination(s)

8.b. Retail Gasoline Dispensing Facility (ADP 20-3387). SWCAA has determined that Best Available Control Technology for the control of gasoline vapors emitted from new gasoline dispensing facilities with a throughput of more than 1,400,000 gallons per year in Clark County consists of EVR Stage I vapor recovery equipment as tested and approved by CARB, maintenance of ORVR-compatible Stage II vapor recovery until 2023, enhanced conventional nozzles (where Stage II is not in place), and low-permeation hoses. This facility is not new. The Stage I vapor recovery system in use by this facility was approved by CARB Executive Order VR-101-L dated September 1, 2009 and is EVR certified. With the exception of the replacement of the OPW Vaporsaver with the Arid Permeator to manage tank pressure, the Stage II vapor recovery system utilized at this source was approved by CARB Executive Order G-70-204-A dated February 27, 2006 and is ORVR compatible. Based on the successful use of this combination of equipment by the applicant at other sites in Washington, the approval of the Arid Permeator by CARB for use with specific systems and the approval by the Texas Environmental Commission on Environmental Quality to use the system on any Stage I or Stage II system, SWCAA believes the use of the proposed Stage II vapor recovery system meets the requirements of BACT. The facility will be required to install low-permeation hoses by 2023 in accordance with SWCAA 491.

8.c. Retail Gasoline Dispensing Facility (ADP 10-2931). SWCAA has determined that Best Available Control Technology for the control of gasoline vapors emitted from gasoline dispensing facilities with a throughput of 600,000 gallons per year or more in Clark County consists of Stage I and Stage II vapor recovery equipment as tested and approved by CARB. The EVR Stage I vapor recovery equipment to be utilized by this source was approved by CARB Executive Order VR-101-L dated September 1, 2009. With the exception of the replacement of the OPW Vaporsaver with the Arid Permeator to manage tank pressure, the Stage II vapor recovery system to be utilized at this source was approved by CARB Executive Order G-70-204-A dated February 27, 2006 and is ORVR compatible. Based on the successful use of this combination of equipment by the applicant at other sites in Washington, the approval of the Arid Permeator by CARB for use with specific systems and the approval by the Texas Environmental Commission on Environmental Quality to use the system on any Stage I or Stage II system, SWCAA believes the use of the proposed system meets the requirements of BACT.

8.d. PSD Applicability. Maximum potential emissions from this facility are well below PSD thresholds; therefore, PSD permitting is not required.

8.e. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this source because it is not a major source and is not required to obtain a Part 70 permit.

9. AMBIENT IMPACT ANALYSIS

9.a. The retail gasoline dispensing facility equipped with Stage I enhanced vapor recovery systems, a tank pressure management system, ECO nozzles, and low permeation hoses will not cause the ambient air quality standards established by Title 40 Code of Federal Regulations Part 50 (40 CFR 50), "National Primary and Secondary Ambient Air Quality Standards" to be violated.

9.b. The retail gasoline dispensing facility equipped with Stage I enhanced vapor recovery systems, a tank pressure management system, ECO nozzles, and low permeation hoses, if properly installed and maintained, can be operated without causing a violation of the applicable emission standards which include the limits established under SWCAA 400-040 "General Standards for Maximum Emissions."

9.c. The retail gasoline dispensing facility equipped with Stage I enhanced vapor recovery systems, a tank pressure management system, ECO nozzles, and low permeation hoses will not cause the requirements of WAC 173-476 "Ambient Air Quality Standards" to be violated.

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 23-3589 in response to ADP application CL-3241. ADP 23-3589 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards, as discussed below.

10.a. Supersession of Previous Permits. ADP 20-3387 will be superseded in its entirety.

10.b. Emission Limits. An annual VOC emission limit of 14.14 tons per year was established. This limit is based upon the facility utilizing properly operated Stage I enhanced vapor recovery systems, a vapor processor-style tank pressure management system, enhanced conventional nozzles, low permeation hoses, dispensing 90% of the fuel to ORVR-equipped vehicles, and a gasoline throughput of 20,000,000 gallons per year. In the application for ADP 20-3387 the applicant requested an emission limit based on a throughput of 21,000,000 gallons per year. To assure that permitted potential emissions do not deviate too far from projected actual emissions, SWCAA only increased the permit limit consistent with a throughput of 20,000,000 gallons. This is the limit reviewed for Costco Store 772 based on an analysis of potential throughput at that facility. SWCAA assumed that with growth in the area of Store 1086, throughput at Store 1086 could ultimately be similar to Store 772. SWCAA believes that this limitation will not constrain sales.

10.c. Operational Limits and Requirements. Consistent with SWCAA 400-040(4), the permittee is required to use recognized good practice and procedures to minimize odors that impact other property owners.

The gasoline throughput was limited to 20,000,000 gallons per year. The origin of this limit is discussed in Section 10.b above.

The remaining requirements are related to proper operation of the Stage I vapor recovery systems, the use of low permeation hoses and enhanced conventional nozzles.

10.d. Monitoring and Recordkeeping Requirements. The permittee is required to record each occurrence of maintenance and repairs to vapor recovery equipment so that SWCAA and the permittee can assure that maintenance and repairs are consistent with approved vapor recovery requirements.

10.e. Reporting Requirements. Total gasoline throughput and the annual emissions inventory are required to be submitted to SWCAA by January 31st of each year (unless otherwise directed by SWCAA) to demonstrate compliance with the throughput limitation in the permit and allow for the development of a comprehensive emissions inventory. Test results must be reported to SWCAA within 14 days consistent with SWCAA 491.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown," technology-based emission standards and control technology determinations shall take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard during start-up or shutdown, SWCAA shall include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

This source is capable of achieving continuous compliance with all applicable requirements; therefore, no start-up or shutdown provisions were included in the ADP.

11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were accommodated by the approval conditions.

11.c. Pollution Prevention Measures. SWCAA conducted a review for possible pollution prevention measures outside of the use of Stage I vapor recovery equipment (including the tank pressure management system), low permeation hoses, and enhanced conventional nozzles. As indicated in Section 8, Stage II vapor recovery equipment was not necessary to meet the requirements of BACT. No other pollution prevention measures were identified by either the permittee or SWCAA. Therefore, none were accommodated in the approval conditions.

12. EMISSION MONITORING AND TESTING

In accordance with the requirements of SWCAA 491-040(4)(n) that became effective February 7, 2020, testing of each pressure-vacuum vent valve is required every 36 months. Stage I vapor recovery testing is required every six months with the exception of the Arid Permeator which is on a 12-month testing schedule. The pressure-vacuum vent valve testing frequency is consistent with the testing required by 40 CFR 63 Subpart CCCCCC. New pressure/vacuum vent valves are typically tested at the factory, therefore initial testing does not apply to new valves with a factory test. In accordance with SWCAA 491, initial vapor recovery testing is required prior to placing the equipment back into service rather than within 60 days after startup as specified in the applicable CARB Executive Order.

For the static pressure decay test, TP-201.3 does not provide an allowable final pressure for stations without Stage II vapor recovery. Therefore, the allowable final pressure equation from 40 CFR 63 Subpart CCCCCC was included in the permit.

13. FACILITY HISTORY

13.a. Previous Permitting Actions. The following approvals, Permits, and Orders have been issued for this facility:

Permit / Order #	Application #	Date Issued	Description
10-2931	CL-1913	May 4, 2010	Installation of a retail gasoline dispensing station with Stage I enhanced vapor recovery systems, ORVR compatible Stage II vapor recovery systems and Arid Permeator to manage tank pressure.
20-3387	CL-3086	February 26, 2020	Approval to increase gasoline throughput from 15,000,000 gallons per year to 20,000,000 gallons per year.

Bold font indicates that the Air Discharge Permit was superseded or no longer in effect upon issuance of Air Discharge Permit 23-3589.

13.b. Compliance History. A search of source records on file at SWCAA did not identify any compliance issues in the past five years or any outstanding compliance issues.

14. PUBLIC INVOLVEMENT OPPORTUNITY

14.a. Public Notice for ADP Application CL-3241. Public notice for ADP application CL-3241 was published on the SWCAA website for a minimum of 15 days, beginning on June 13, 2023.

14.b. Public/Applicant Comment for ADP Application CL-3241. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application CL-3241. Therefore, no public comment period was provided for this permitting action.

14.c. State Environmental Policy Act. This project is exempt from SEPA requirements pursuant to WAC 197-11-800(3) since it only involves repair, remodeling, maintenance, or minor alteration of existing structures, equipment or facilities, and does not involve material expansions or changes in use. SWCAA issued a determination that the project is exempt from SEPA review on July 6, 2023 (Determination of SEPA Exempt - SWCAA 23-027).

Appendix A

CARB Executive Order VR-101-L

Franklin Fueling Systems, Inc.
Phil-Tite Phase I Vapor Recovery System

State of California
AIR RESOURCES BOARD

Executive Order VR-101-L

Franklin Fueling Systems, Inc.
Phil-Tite Phase I Vapor Recovery System

WHEREAS, the California Air Resources Board (ARB) has established, pursuant to California Health and Safety Code sections 25290.1.2, 39600, 39601 and 41954, certification procedures for systems designed for the control of gasoline vapor emissions during the filling of underground gasoline storage tanks, in its **CP-201, *Certification Procedure for Vapor Recovery Systems at Gasoline Dispensing Facilities*** (Certification Procedure 201) as last amended May 25, 2006, incorporated by reference in title 17, California Code of Regulations, section 94011;

WHEREAS, ARB has established, pursuant to California Health and Safety Code sections 39600, 39601, and 41954, certification procedures for systems designed for the control of gasoline vapor emissions at novel facilities in its **CP-205, *Certification Procedure for Vapor Recovery Systems of Novel Facilities*** (Certification Procedure 205) as last amended March 17, 1999, incorporated by reference into title 17, California Code of Regulations, section 94015;

WHEREAS, ARB has established, pursuant to California Health and Safety Code sections 39600, 39601 and 41954, test procedures for determining the compliance of Phase I vapor recovery systems with emission standards;

WHEREAS, Franklin Fueling Systems, Inc. (FFS) requested and was granted certification of the Phil-Tite Phase I Vapor Recovery System (Phil-Tite system) pursuant to the Certification Procedure 201 on June 19, 2001 by Executive Order VR-101-A, and last modified on June 30, 2008, by Executive Order VR-101-K;

WHEREAS, FFS requested modifications to the certification to certify the FFS PV-Zero Pressure/Vacuum Vent Valve for all gasoline blends, including 85% Ethanol/15% gasoline fuel blend (E85);

WHEREAS, the requested modifications to the certification to certify components compatible with E85 on the Phil-Tite system have been evaluated pursuant to the Certification Procedure 205;

WHEREAS, Certification Procedures 201 and 205 provide that the ARB Executive Officer shall issue an Executive Order if he or she determines that the vapor recovery system, including modifications, conforms to all of the applicable requirements set forth in the Certification Procedures;

WHEREAS, G-01-032 delegates to the Chief of the Monitoring and Laboratory Division the authority to certify or approve modifications to certified Phase I and Phase II vapor recovery systems for gasoline dispensing facilities (GDF); and

WHEREAS, I, William V. Loscutoff, Chief of the Monitoring and Laboratory Division, find that the Phil-Tite Phase I Vapor Recovery System, including modifications, conforms with all of the

requirements set forth in the Certification Procedures 201 and 205, and results in a vapor recovery system which is at least 98.0 percent efficient as tested in accordance with test procedure **TP-201.1**, ***Volumetric Efficiency for Phase I Systems (October 8, 2003)***;

NOW, THEREFORE, IT IS HEREBY ORDERED that the Phil-Tite system is certified to be at least 98.0 percent efficient when installed and maintained as specified herein and in the following exhibits. Exhibit 1 contains a list of the certified components. Exhibit 2 contains the performance standards and specifications, typical installation drawings and maintenance intervals for the Phil-Tite system as installed in a gasoline dispensing facility (GDF). Exhibit 3 contains the manufacturing specifications.

IT IS FURTHER ORDERED that compliance with the applicable certification requirements, rules and regulations of the Division of Measurement Standards of the Department of Food and Agriculture, the Office of the State Fire Marshal of the Department of Forestry and Fire Protection, the Division of Occupational Safety and Health of the Department of Industrial Relations, and the Division of Water Quality of the State Water Resources Control Board are made conditions of this certification.

IT IS FURTHER ORDERED that Phil-Tite shall provide a warranty for the vapor recovery system and components to the initial purchaser. The warranty shall be passed on to each subsequent purchaser within the warranty period. The manufacturer of components not manufactured by Phil-Tite shall provide a warranty for each of their components certified herein. This warranty shall include ongoing compliance with all applicable performance standards and specifications, and shall comply with all warranty requirements in section 16.5 of the Certification Procedure 201. Phil-Tite or other manufacturers may specify that the warranty is contingent upon the use of trained installers.

IT IS FURTHER ORDERED that the certified Phil-Tite system shall be installed, operated and maintained in accordance with the ***ARB-Approved Installation, Operation and Maintenance Manual for the Phil-Tite Phase I Vapor Recovery System*** as certified by Executive Order VR-101-L. A copy of this Executive Order and manual shall be maintained at each GDF where a certified Phil-Tite system is installed.

IT IS FURTHER ORDERED that equipment listed in Exhibit 1, unless exempted, shall be clearly identified by a permanent identification showing the manufacturer's name and model number.

IT IS FURTHER ORDERED that any alteration in the equipment, parts, design, installation or operation of the system certified hereby is prohibited and deemed inconsistent with this certification unless the alteration has been submitted in writing and approved in writing by the Executive Officer or Executive Officer's delegate.

IT IS FURTHER ORDERED that the following requirements be made a condition of certification. The owner or operator of the Phil-Tite system shall conduct, and pass, the following tests no later than 60 days after startup and at least once every three (3) years after startup testing, using the following test procedures: **TP-201.3**, ***Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities (March 17, 1999)***, **TP-201.1B**, ***Static Torque of Rotatable Phase I Adaptors (October 8, 2003)*** and depending on the system configuration, either **TP-201.1D**, ***Leak Rate of Drop Tube Overfill Prevention Device and Spill Container Drain Valve (October 8, 2003)***; or **TP-201.1C**, ***Leak Rate of Drop Tube/Drain Valve Assembly (October 8, 2003)***. Shorter time periods may be specified in accordance with local district requirements. Notification of testing, and submittal of test results, shall be done in

accordance with local district requirements and pursuant to the policies established by that district. Local districts may require the use of alternate test form(s), provided they include the same minimum parameters identified in the datasheet referenced in the test procedure(s). Alternative test procedures, including the most recent versions of the test procedures listed above, may be used if determined by the Executive Officer or Executive Officer delegate, in writing, to yield comparable results. Testing the Pressure/Vacuum (P/V) Vent valve will be at the option of the local districts. If P/V valve testing is required by the district, the test shall be conducted in accordance with **TP-201.1E, *Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)*** and Exhibit 2.

IT IS FURTHER ORDERED that the Phil-Tite system shall be compatible with gasoline in common use in California at the time of certification, including E-85 (85% ethanol/15% gasoline) for specific components listed in Exhibit 1. Any modifications to comply with future California gasoline requirements shall be approved in writing by the Executive Officer or Executive Officer delegate.

IT IS FURTHER ORDERED that GDF installations permitted under VR-101-K for E-85 fuel that use the PV-Zero-E85 Pressure/Vacuum Vent Valve shall be subject to a throughput limitation of 1.2 million gallons per year (100,000 gallons per month).

IT IS FURTHER ORDERED that the certification of the Phil-Tite Phase I Vapor Recovery System is valid through May 31, 2012.

IT IS FURTHER ORDERED that Executive Order VR-101-K issued on June 30, 2008, is hereby superseded by this Executive Order. Phil-Tite Phase I Vapor Recovery Systems certified under Executive Orders VR-101-A to K may remain in use at existing installations. This Executive Order shall apply to new installations or major modification of the Phase I system of existing gasoline dispensing facilities.

Executed at Sacramento, California, this 1st day of September, 2009.

William V. Loscutoff, Chief
Monitoring and Laboratory Division

Attachments:

Exhibit 1 Phil-Tite Phase I Vapor Recovery System Equipment List
Exhibit 2 Installation, Maintenance and Compliance Specifications
Exhibit 3 Manufacturing Performance Standards and Specifications

Exhibit 1

Phil-Tite Phase I Vapor Recovery System Equipment List

Equipment	**Manufacturer/Model Number**

(Gas/E85) = Identifies that these components are approved for standard gasoline and E85 fuel blends.

(Gas) = Identifies that these components are only approved for standard gasoline fuel blends.

(E85) = Identifies that these components are only approved for E85 fuel blends.

Spill Container

Phil-Tite 85000 series (Gas/E85)
Phil-Tite 85000-1 series (Gas/E85)

85000 and 85000-1 series legend:
85*W*0*X*-*YYY*-*ZZZ* (85000 series)
85*W*0*X*-1*YYY*-*ZZZ* (85000-1 series)

W represented by:
0 = preassembled spill container assembly
1 = replacement spill container

X represented by:
0 = product spill container
1 = vapor spill container

YYY represented by:
15 = 15-gallon capacity
EXT = external for sump configuration (not available for 85000-1 series)
NV = Vapor (replacement spill container)
F = Product (replacement spill container)
S = Stainless Steel (SS) Sleeve
GS = Stainless Steel (SS) Sleeve and Gravel Shield

ZZZ represented by:
15 = 15-gallon capacity
EXT = external for sump configuration (not available for 85000-1 series)
NV = Vapor (replacement spill container)
F = Product (replacement spill container)
S = Stainless Steel (SS) Sleeve
GS = Stainless Steel (SS) Sleeve and Gravel Shield

Spill Container Lid

Phil-Tite 85011 (Gas/E85) (not required with sump configuration lid)

Debris Bucket

Phil-Tite PP-1005 TB (Gas/E85) (product) (not required)
Phil-Tite PP-1005 TBP (Gas/E85) (vapor) (not required)

Exhibit 1 (continued)

Phil-Tite Phase I Vapor Recovery System Equipment List

Equipment	Manufacturer/Model Number
Product Adaptor	Phil-Tite SWF-100-B (Gas) Phil-Tite SWF-100-SS (Gas/E85)
Vapor Adaptor	Phil-Tite SWV-101-B (Gas) Phil-Tite SWV-101-SS (Gas/E85)
Riser Adaptor	Phil-Tite M/F4X4 (Gas/E85)
Riser Support Bracket	Phil-Tite M-1600 (Gas/E85)
Dust Cap	Morrison Brothers 323C-0100ACEVR (vapor) (Gas/E85) Morrison Brothers 305C-0100ACEVR (product) (Gas/E85) OPW 1711T-EVR (vapor) (Gas/E85) OPW 634TT-EVR (product) (Gas/E85) OPW 634LPC (product) (Gas) OPW 1711LPC (vapor) (Gas) CompX CSP1-634LPC (product) (Gas) CompX CSP3-1711LPC (vapor) (Gas) CompX CSP2-634LPC (product) (Gas) CompX CSP4-1711LPC (vapor) (Gas) EBW 777-201-01 (product) (Gas) EBW 777-201-02 (product) (Gas/E85) EBW 304-301-XX (vapor) (Gas) XX indicates presence of security chain: 01= no chain 02= with chain EBW 304-301-YY (vapor) (Gas/E85) YY indicates presence of security chain: 03= no chain 04= with chain
Pressure/Vacuum Vent Valve	FFS PV-Zero (Gas/E85) Husky 5885 (Gas)
Tank Gauge Port Components	Ever-Tite 4097AGBR (threaded adaptor) (Gas) Ever-Tite 4097AGMBRNL (adaptor) (Gas) Ever-Tite 4097MBR (double handle cap) (Gas) Veeder-Root 312020-952 (cap and adaptor kit) (Gas/E85) Morrison Brothers 305XPA1100AKEVR (cap and adaptor kit) (Gas/E85)

Exhibit 1 (continued)

Phil-Tite Phase I Vapor Recovery System Equipment List

Equipment	Manufacturer/Model Number
Tank Gauge Port Components (Continued)	EBW 90037-E (In Tank Probe Cap and Adapter Kit) (Gas/E85)
	Morrison Brothers 305-0200AAEVR (replacement adaptor) (Gas/E85)
	Morrison Brothers 305XP-110ACEVR (replacement cap) (Gas/E85)
	EBW 90037 (In Tank Probe Cap and Adaptor Kit) (Gas)
Drop Tube Overfill Prevention Device[1]	Phil-Tite 61SO-PT (Gas) EBW 708-49X-1Y (Gas) EBW 708-49X-3Y (Gas/E85) X represented by: 1 = 5 foot length upper drop tube section 2 = 10 foot length upper drop tube section Y represented by: 1 = 8 foot length bottom thread-on section drop tube 2 = 10 foot length bottom thread-on section drop tube
Drop Tube[1]	OPW 61-T (various lengths) (Gas) EBW 782-204-3X2 (Gas/E85) (Note: 4 inch diameter tube) X represented by: 0 = 10 feet 2 = 12 feet
Riser Offset[1]	Phil-Tite M-6050 (Gas/E85)

[1] If these components are installed or required by regulations of other agencies, only those components and model numbers specified above shall be installed or used.

Exhibit 1 (continued)

Phil-Tite Phase I Vapor Recovery System Equipment List

Equipment	Manufacturer/Model Number	
Double Fill[1]	Phil-Tite	(configuration only) (Gas/E85)
Tank Bottom Protector[1]	Phil-Tite Phil-Tite	TBP-3516 (Gas) TBP-3516-E (Gas/E85)

Table 1
Components Exempt from Identification Requirements

Component Name	Manufacturer	Model Number
Drop Tube	OPW EBW	61-T Straight Drop Tube (Gas) 782-304-3X2 (Gas/E85)
Dust Caps	Morrison Brothers	323C-0100ACEVR (vapor)* (Gas) 305C-0100ACEVR (product)* (Gas)
Tank Gauge Port Components	Ever-Tite	4097 AGBR, AGMBRNL, MBR (Gas)
	Veeder-Root	312020-952 (cap & adaptor) (Gas/E85)
	Morrison Brothers	305XPA1100AKEVR (cap and adaptor kit) (Gas/E85) 305-0200AAEVR (replacement adaptor) (Gas/E85) 305XP-1100ACEVR (replacement cap) (Gas/E85)
	EBW	90037 (In Tank Probe Cap and Adaptor Kit) (Gas) 90037-E (In Tank Probe Cap and Adaptor Kit) (Gas/E85)
Riser Adaptor	Phil-Tite	M/F 4X4 (Gas/E85)
Riser Offset	Phil-Tite	M-6050 (Gas/E85)
Riser Support Bracket	Phil-Tite	M-1600 (Gas/E85)
Spill Container Lid	Phil-Tite	85011 (Gas/E85)
Sump/Sump Lids	Varies	Varies (Gas/E85)

* Morrison Brothers dust caps identified as 323C EVR and 305C EVR respectively.

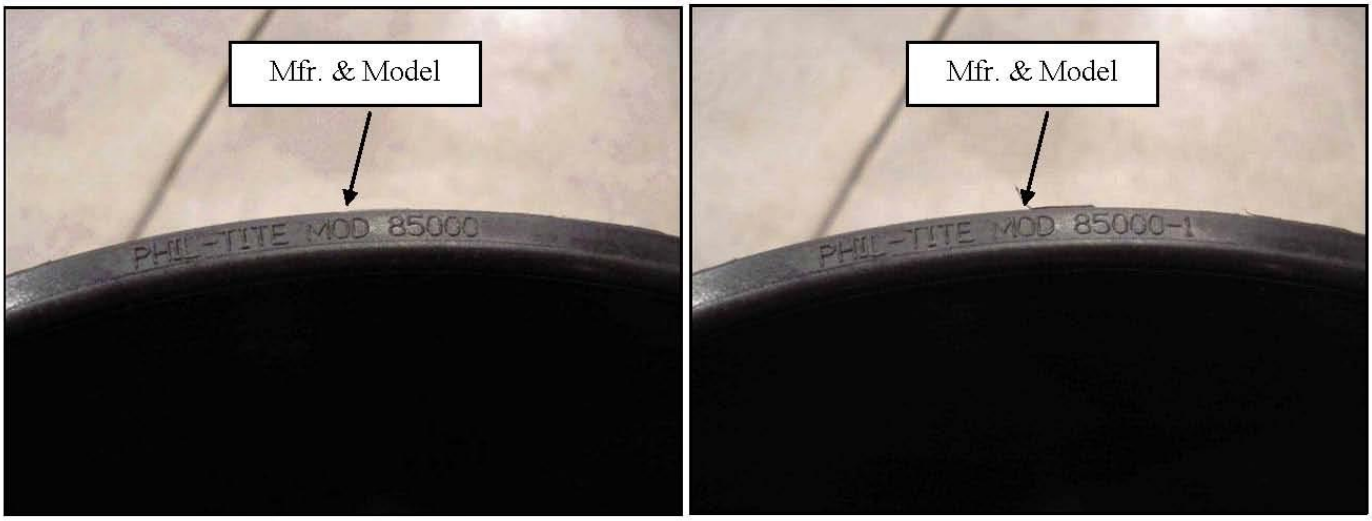
The components in Table 2 may not be installed as a new or replacement part on or after September 1, 2002. These components, if installed prior to September 1, 2002, may be used for the remainder of their useful life.

Table 2

Component Name	Manufacturer	Model Number
Drop Tube	EBW	782-204 (various lengths) (Gas)
	Emco Wheaton	A0020 (various lengths) (Gas)

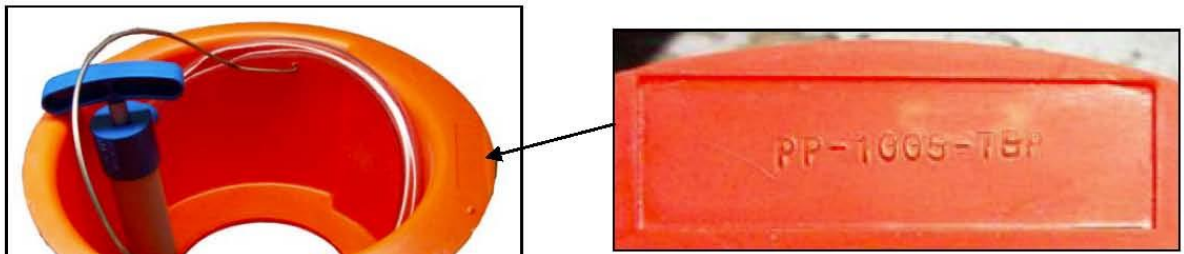
[1] If these components are installed or required by regulations of other agencies, only those components and model numbers specified above shall be installed or used.

Exhibit 1 (continued)
Component Identification and Location



Phil-Tite Model 85000 and 85000-1 Spill Containers

Phil-Tite Model PP-1005-TB
Product Debris Bucket



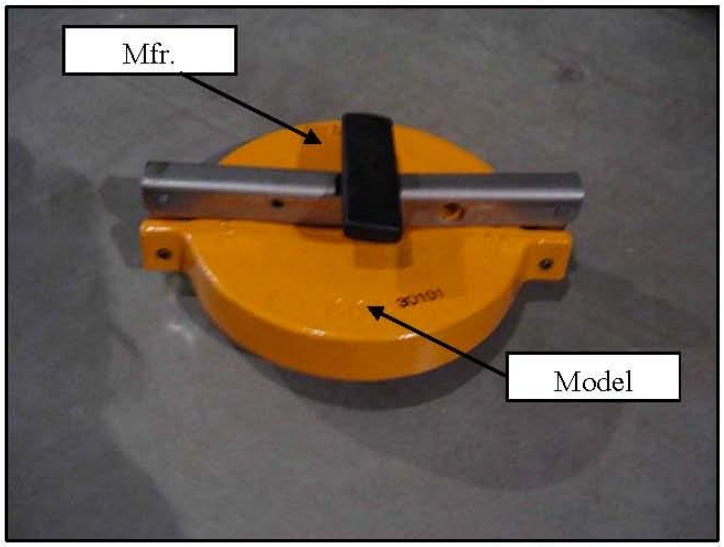
Phil-Tite Model PP-1005-TBP
Vapor Debris Bucket

Exhibit 1 (continued)
Component Identification and Location

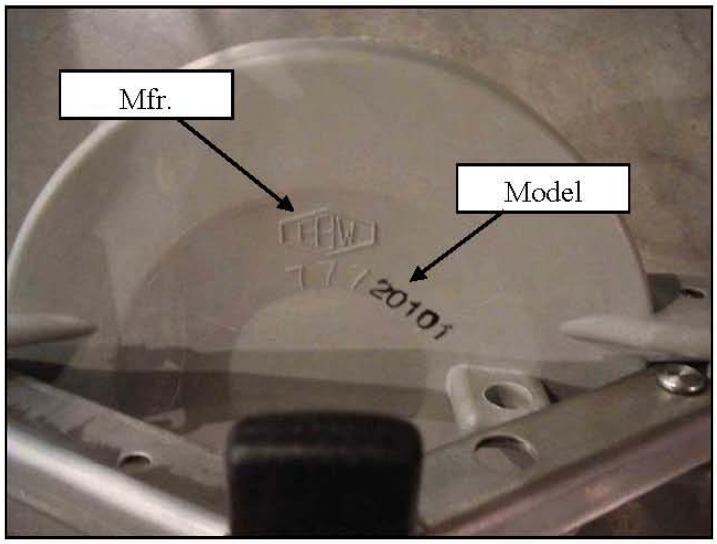
Phil-Tite Model SWF-100-B
Product Adaptor

Phil-Tite Model SWV-101-B
Vapor Adaptor

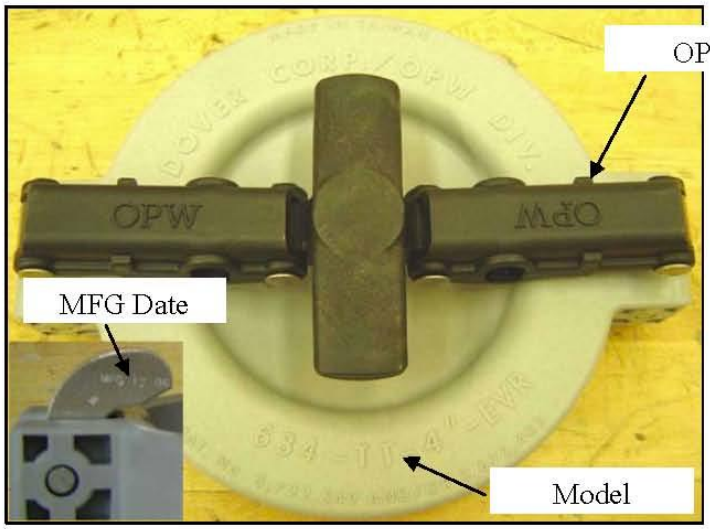
Exhibit 1 (continued)
Component Identification and Location



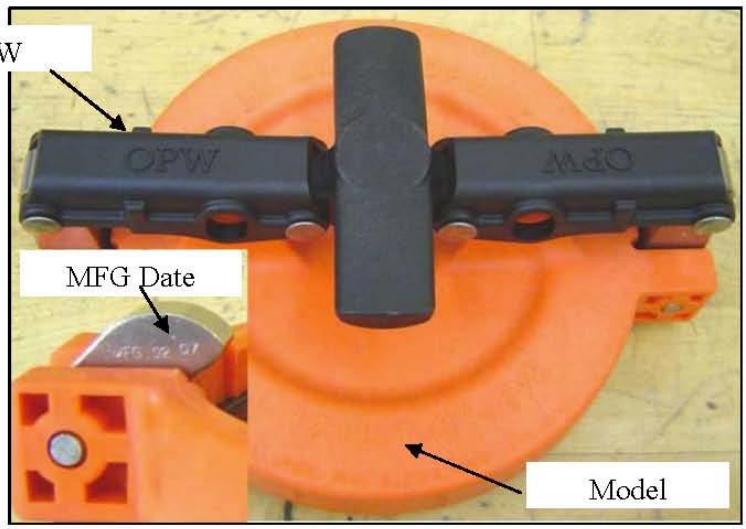
EBW 304-301-XX Vapor Dust Cap



EBW 777-201-01 Product Dust Cap

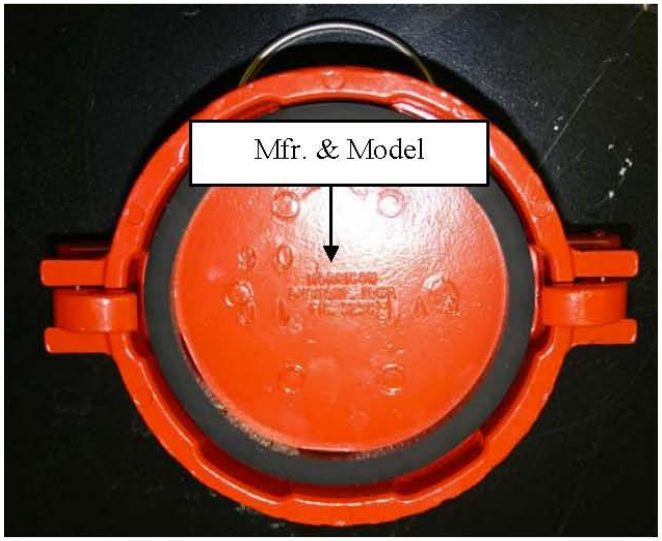


OPW 634-TT-EVR Product Dust Cap



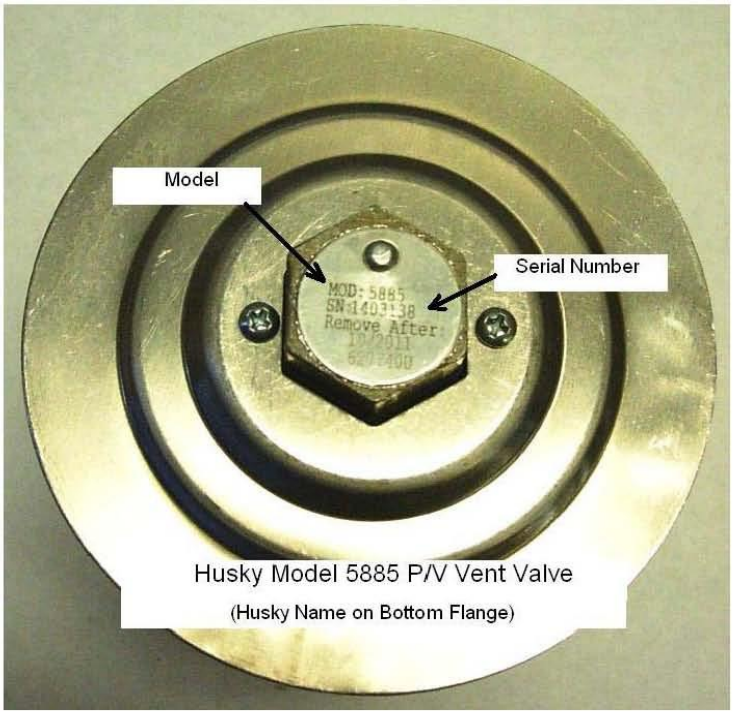
OPW 1711-T-EVR Vapor Dust Cap

Exhibit 1 (continued)
Component Identification and Location



Morrison Brothers 323C EVR Vapor Dust Cap

Morrison Brothers 305C EVR Product Dust Cap



(Gasoline Only)

Exhibit 1 (continued)
Component Identification and Location

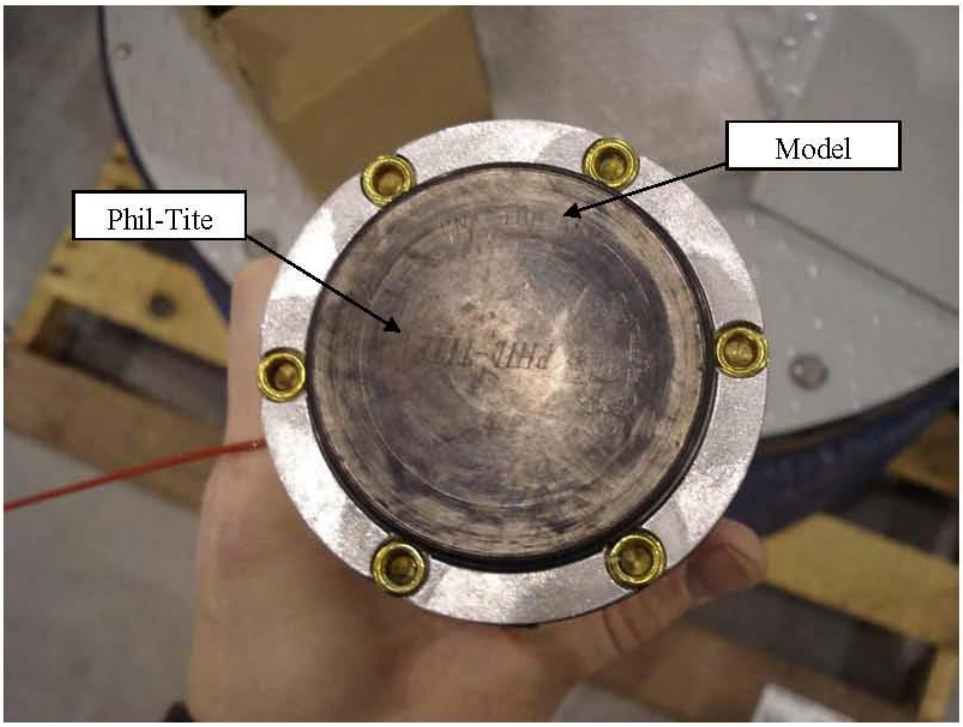
FFS PV-Zero P/V Vent Valve
(Model and Serial Number on White Tag)
(Gas/E85)

Exhibit 1 (continued)
Component Identification and Location

EBW Model 708-49X-1Y Overfill Prevention Device

Phil-Tite Model 61SO-PT Overfill Prevention Device

Exhibit 1 (continued)
Component Identification and Location



Phil-Tite TBP-3516 Series Tank Bottom Protector

OPW 634LPC Product Dust

OPW 1711LPC Vapor Dust

Exhibit 1 (continued)
Component Identification and Location

EBW 777-201-02 Product Dust Cap
(Gas/E85 Compatible)

EBW 304-301-03 Vapor Dust Cap
(Gas/E85 Compatible)

Exhibit 1 (continued)
Component Identification and Location

EBW 708-49X-3Y Autolimiter
(Gas/E85 Compatible)

Phil-Tite 85000 & 85000-1 Series Spill Container
(Gas/E85 Compatible)

Exhibit 1 (continued)
Component Identification and Location

Phil-Tite SWF-100-SS Fill Adaptor

Phil-Tite SWV-101-SS Vapor Adaptor

Exhibit 1 (continued)
Component Identification and Location

CompX CSP1-634LPC Product Dust Cap

CompX CSP3-1711LPC Vapor Dust Cap
(Gas Only)

CompX Tank Commander Lid
Locks onto CSP1-634LPC and CSP3-1711LPC Dust Caps

Exhibit 1 (continued)
Component Identification and Location

CompX CSP2-634LPC Product Dust Cap CompX CSP4-1711LPC Vapor Dust Cap (Gas Only)

CompX Tank Commander Lid
Locks onto CSP2-634LPC and CSP4-1711LPC Dust Caps

Exhibit 2

Installation, Maintenance and Compliance Specifications

This Exhibit contains the installation, maintenance and compliance standards and specifications applicable to a Phil-Tite system installed in a gasoline dispensing facility (GDF).

General Specifications

1. Typical installations of the Phil-Tite system are shown in Figures 2A, 2B and 2C.

2. The Phil-Tite system shall be installed, operated and maintained in accordance with the latest amended version of the ***ARB-Approved Installation, Operation and Maintenance Manual for the Phil-Tite Phase I Vapor Recovery System.***

3. Any repair or replacement of system components shall be done in accordance with the Executive Order VR-101-J version of the ***ARB-Approved Installation, Operation and Maintenance Manual for the Phil-Tite Phase I Vapor Recovery System***.

4. The Phil-Tite system shall comply with the applicable performance standards and performance specifications in CP-201.

5. Installation, maintenance and repair of system components, including removal and installation of such components in the course of any required tests, shall be performed by Phil-Tite Certified Technicians.

Pressure/Vacuum Vent Valves For Storage Tank Vent Pipes

1. No more than three certified pressure/vacuum vent valves (P/V valves) listed in Exhibit 1 shall be installed on any GDF underground storage tank system.

2. Compliance determination of the following P/V valve performance specifications shall be at the option of the districts:

    a. The leak rate of each P/V valve shall not exceed 0.05 cubic feet per hour (CFH) at 2.00 inches of H_2O positive pressure and 0.21 CFH at -4.00 inches of H_2O negative pressure as determined by TP-201.1E, ***Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)***.

    b. The positive pressure setting is 2.5 to 6.0 inches of H_2O and the negative pressure setting is 6.0 to 10.0 inches of H_2O as determined by **TP-201.1E**, ***Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves (October 8, 2003)***.

3. Compliance determination of the P/V valve performance specifications in items 2a and 2b for the FFS PV-Zero P/V vent valve shall be conducted with the valve remaining in its installed position on the vent line(s). The PV-Zero portion of the ***ARB-Approved Installation, Operation and Maintenance Manual for the Phil-Tite Phase I Vapor Recovery System*** outlines the equipment needed to test the valve in its installed position.

4. A manifold may be installed on the vent pipes to reduce the number of potential leak sources and P/V valves installed. Vent pipe manifolds shall be constructed of steel pipe or an equivalent material that has been listed for use with gasoline. If a material other than steel is used, the GDF operator shall make available information demonstrating that the material is compatible for use with gasoline. One example of a typical vent pipe manifold is shown in Figure 2G. This shows only one typical configuration; other manifold configurations may be used. For example, a tee may be located in a different position, or fewer pipes may be connected, or more than one P/V valve may be installed on the manifold.

5. Each P/V valve shall have permanently affixed to it a yellow or gold-colored label with black lettering stating the following specifications:

Positive pressure setting: 2.5 to 6.0 inches H_2O
Negative pressure setting: 6.0 to 10.0 inches H_2O
Positive Leakrate: 0.05 CFH at 2.0 inches H_2O
Negative Leakrate: 0.21 CFH at -4.0 inches H_2O

6. Each FFS PV-Zero P/V valve installed shall have permanently affixed to it a label that identifies that it is compatible with E85.

Rotatable Product and Vapor Recovery Adaptors

1. Rotatable product and vapor recovery adaptors shall be capable of at least 360-degree rotation and have an average static torque not to exceed 108 inch-pounds (9 foot-pounds). Compliance with this requirement shall be demonstrated in accordance with **TP-201.1B, *Static Torque of Rotatable Phase I Adaptors (October 8, 2003).***

2. The vapor adaptor poppet shall not leak when closed. Compliance with this requirement shall be verified by the use of commercial liquid leak detection solution, or by bagging, when the vapor containment space of the underground storage tank is subjected to a non-zero gauge pressure. (Note: leak detection solution will detect leaks only when positive gauge pressure exists.)

Vapor Recovery and Product Adaptor Dust Caps

Dust caps with intact gaskets shall be installed on all Phase I tank adaptors.

Spill Container Drain Valve

The spill container drain valve is configured to drain liquid directly into the drop tube and is isolated from the underground storage tank ullage space. The leak rate of the drain valve shall not exceed 0.17 CFH at 2.00 inches H_2O. Depending on the presence of the drop tube overfill prevention device, compliance with this requirement shall be demonstrated in accordance with either **TP-201.1C, *Leak Rate of Drop Tube/Drain Valve Assembly (October 8, 2003)*, or TP-201.1D, *Leak Rate of Drop Tube Overfill Prevention Device and Spill Container Drain Valve (October 8, 2003).***

Drop Tube Overfill Prevention Device

1. The Drop Tube Overfill Prevention Device (overfill device) is designed to restrict the flow of gasoline delivered to the underground storage when liquid levels exceed a specified capacity. The drop tube overfill device is not a required component of the vapor recovery system, but may be installed as an optional component of the system. Other requirements may apply.

2. The leak rate of the overfill device shall not exceed 0.17 CFH at 2.00 inches H_2O when tested as in accordance with **TP-201.1D, *Leak Rate of Drop Tube Overfill Prevention Device and Spill Container Drain Valves (October 8, 2003)***.

3. The discharge opening of the fill pipe must be entirely submerged when the liquid level is six inches above the bottom of the tank as shown in Figures 2A and 2B.

Threaded Riser Adaptor

The Threaded Riser Adaptor shall provide a machined surface on which a gasket can seal and ensures that the seal is not compromised by an improperly cut or improperly finished riser. A Threaded Riser adaptor shall be installed on the following required connections. As an option, the adaptor may be installed on other connections.

a. Product Spill Container (required)
b. Vapor Recovery Spill Container (required)
c. Tank Gauging Components (required)

Vapor Recovery Riser Offset

1. The vapor recovery tank riser may be offset from the tank connection to the vapor recovery Spill Container provided that the maximum horizontal distance (offset distance) does not exceed twenty (20) inches. One example of an offset is shown in Figure 2F.

2. A vapor recovery riser shall be offset up to 20 inches horizontal distance with use of commercially available, four (4) inch steel pipe fittings, a Phil-Tite Model M-6050 Vapor Riser Offset, or a combination of the two products. An example of a Phil-Tite Model M-6050 configuration is shown in Figure 2F.

Tank Gauge Port Components

The tank gauge adaptor and cap are paired. Therefore, an adaptor manufactured by one company shall be used only with a cap manufactured by the same company.

Connections and Fittings

All connections and fittings not specifically certified with an allowable leak rate shall not leak. The absence of vapor leaks shall be verified with the use of commercial liquid leak detection solution (LDS), or by bagging, when the vapor containment space of the underground storage tank is subjected to a non-zero gauge pressure. (Note: leak detection solution will detect leaks only when positive gauge pressure exists).

Double Fill Configuration

A Phil-Tite Double Fill Configuration shall be allowed for installation provided that no more than two fill points are installed on any single underground storage tank and that no offset of the vapor recovery riser pipe is installed. An example of a Phil-Tite Double Fill configuration is shown in Figure 2D.

Sump Configuration

The Phil-Tite Sump Configuration is designed to place the spill containers inside of an underground sump with a single exterior lid as shown in Figure 2E. The Phil-Tite 85011 Cast Lids are not required if spill containers are placed in a sump with a sump lid.

Maintenance Records

Each GDF operator or owner shall keep records of maintenance performed at the facility. Such record shall be maintained on site or in accordance with district requirements or policies. Additional information may be required in accordance with district requirements or policies. The records shall include the maintenance or test date, repair date to correct test failure, maintenance or test performed, affiliation, telephone number, name and Certified Technician Number of individual conducting maintenance or test. An example of a Phase I Maintenance Record is shown in Figure 2H.

Table 2-1
Gasoline Dispensing Facility Compliance Standards and Specifications

Component / System	Test Method	Standard or Specification
Rotatable Phase I Adaptors	TP-201.1B	Minimum, 360-degree rotation Maximum, 108 pound-inch average static torque
Overfill Prevention Device	TP-201.1D	≤0.17 CFH at 2.00 inches H_2O
Spill Container Drain Valve	TP-201.1C or TP-201.1D	≤0.17 CFH at 2.00 inches H_2O
P/V Valve[1.]	TP-201.1E	Positive pressure setting: 2.5 to 6.0 inches H_2O Negative pressure setting: 6.0 to 10.0 inches H_2O Positive Leakrate: 0.05 CFH at 2.0 inches H_2O Negative Leakrate: 0.21 CFH at -4.0 inches H_2O
Vapor Recovery System	TP-201.3	As specified in TP-201.3 and/or CP-201
Connections and fittings certified without an allowable leak rate	Leak Detection Solution or bagging	No leaks

Table 2-2
Maintenance Intervals for System Components[2]

Manufacturer	Component	Maintenance Interval
All Models	Dust Caps	Annual
All Models	In Tank Gauge Port Probe Cap and Adaptor Kit	Annual
EBW	Drop Tube Overfill Prevention Device 708-49X-1Y series Drop Tube Overfill Prevention Device 708-49X-3Y series	Annual
EBW	782 Straight Drop Tube	Annual
Husky	Pressure/Vacuum Vent Valve	Annual
FFS	Pressure/Vacuum Vent Valve	Annual
OPW	61-T Straight Drop Tube	Annual
Phil-Tite	Spill Container (all models)	Every 3 years
Phil-Tite	Drop Tube Overfill Prevention Device 61SO-PT	Annual
Phil-Tite	SWF-100-B Product Adaptor SWF-100-SS Product Adaptor	Annual
Phil-Tite	SWV-101-B Vapor Adaptor SWV-101-SS Vapor Adaptor	Annual

1. Compliance determination is at the option of the district.
2. Maintenance must be conducted within the interval specified from the date of installation and at least within the specified interval thereafter.

Figure 2A
Typical Product Side Installation of Phil-Tite System Using 61SO-PT

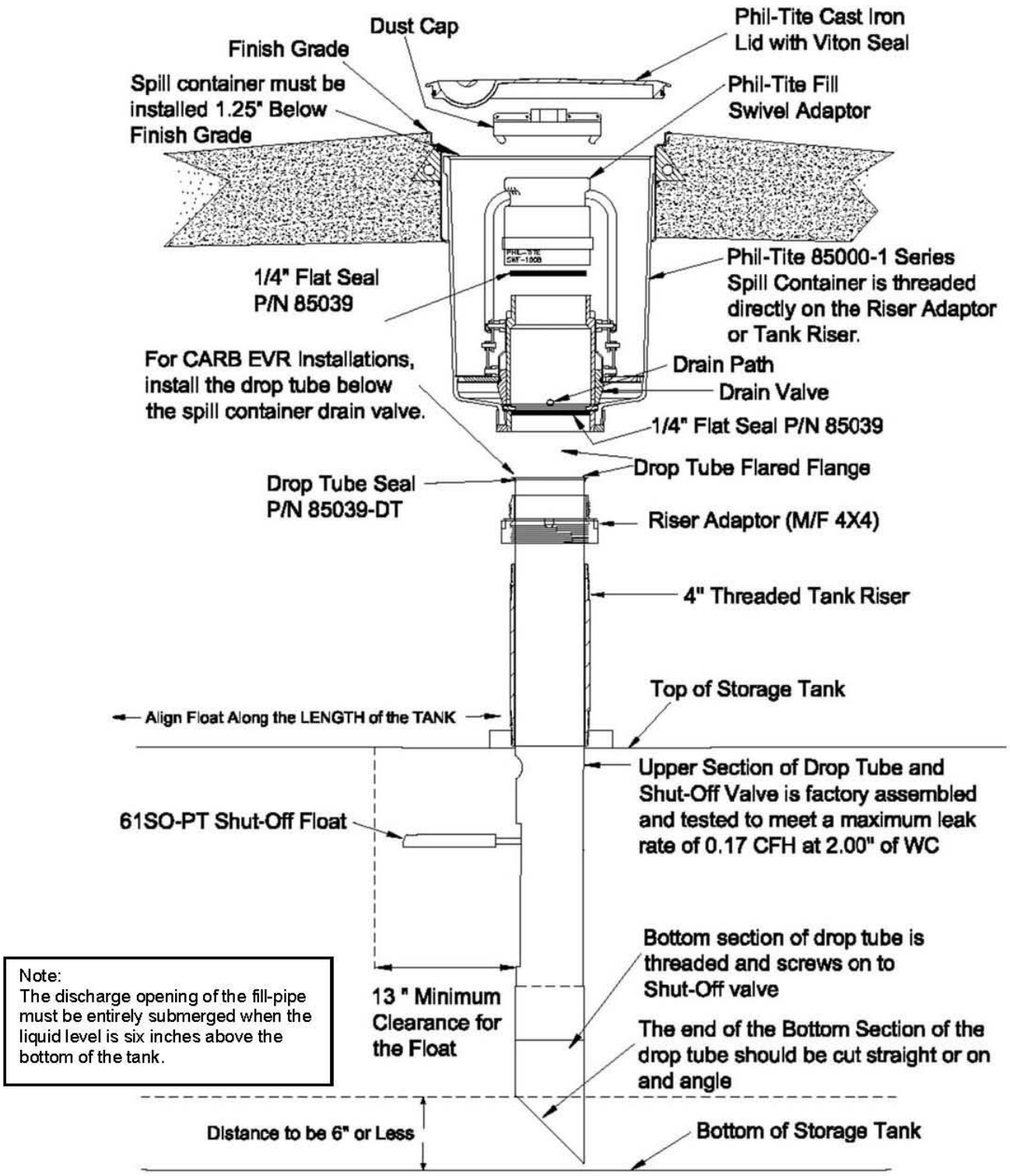


Figure 2B
Typical Product Side Installation of Phil-Tite System Using EBW Autolimiter II 708-49X- Series

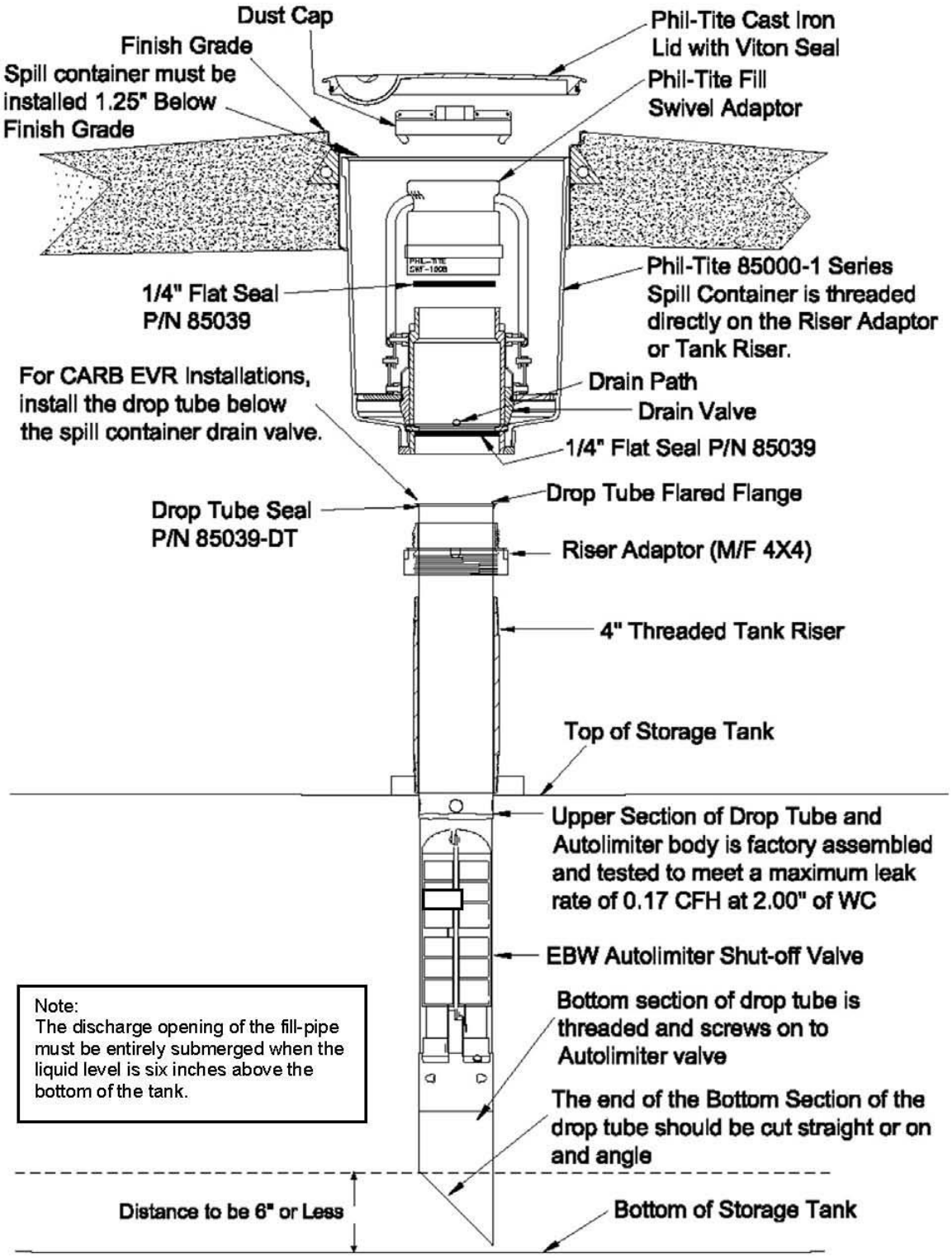


Figure 2C
Typical Vapor Recovery Installation Using Phil-Tite System

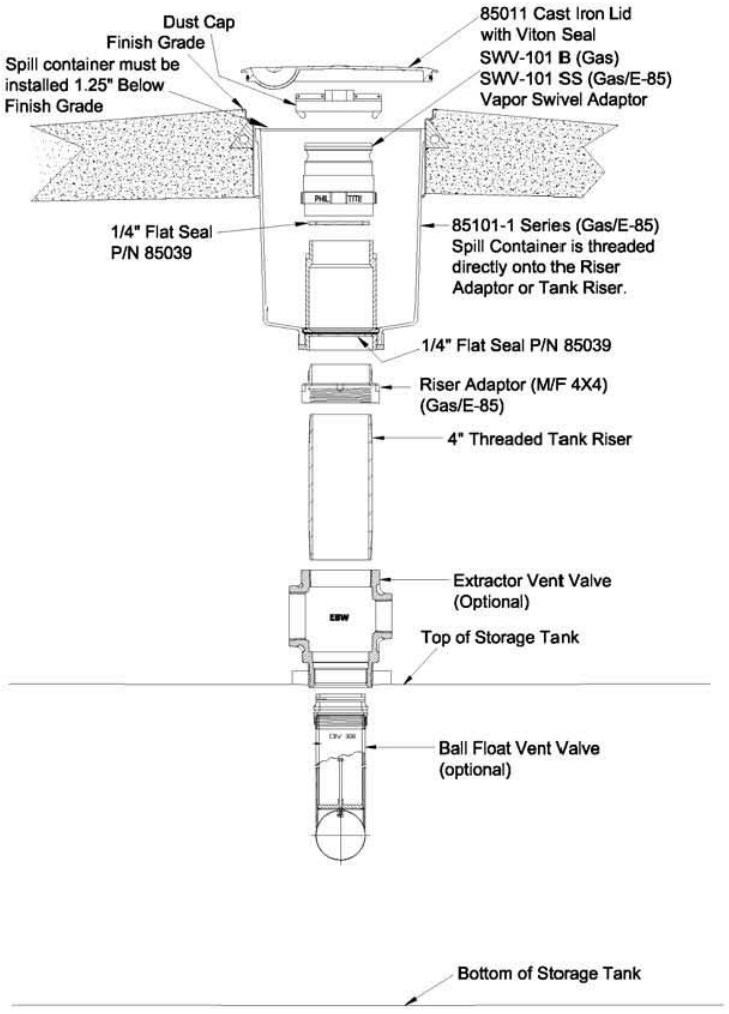


Figure 2D
Typical Phil-Tite Double Fill Configuration

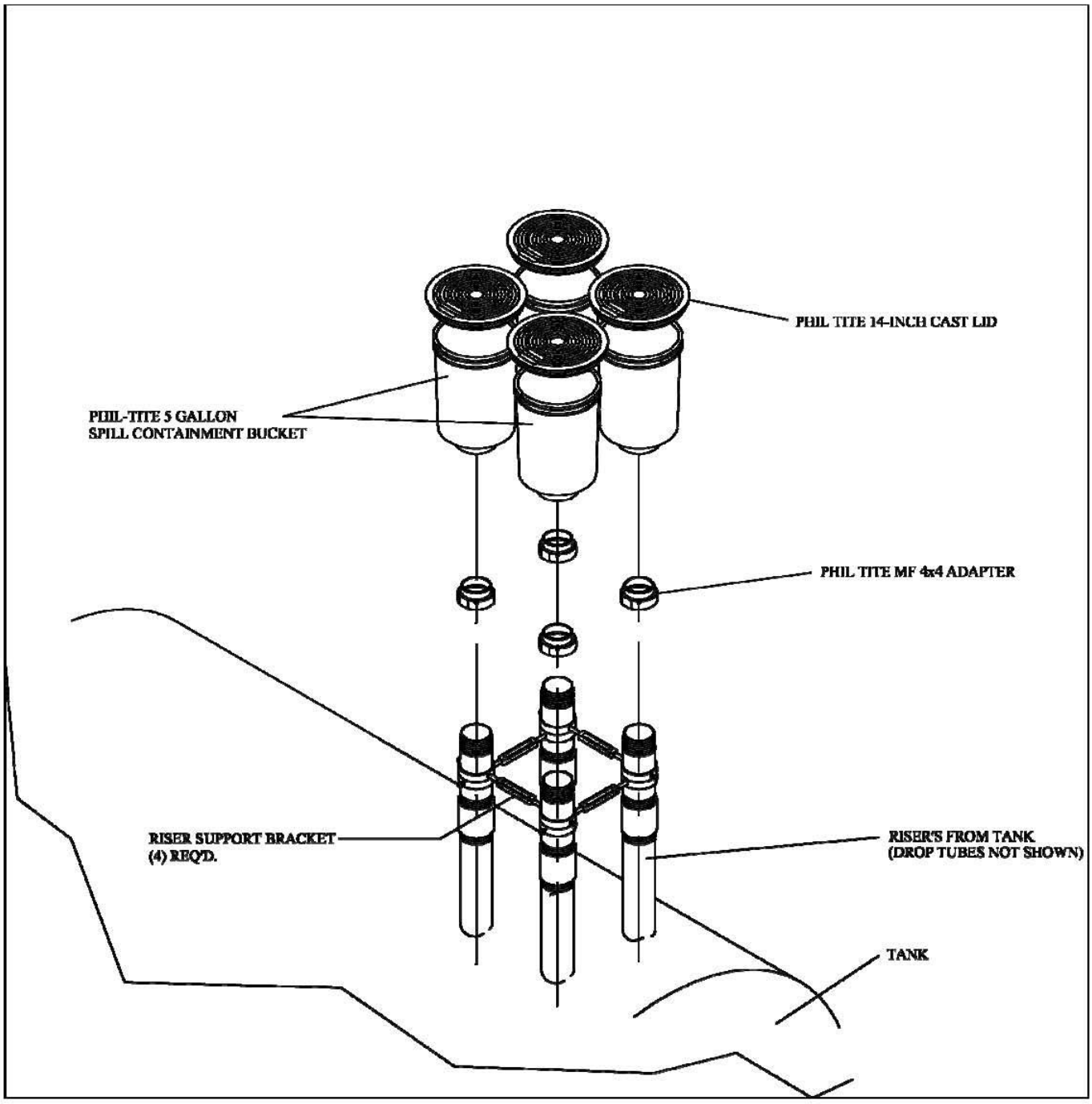
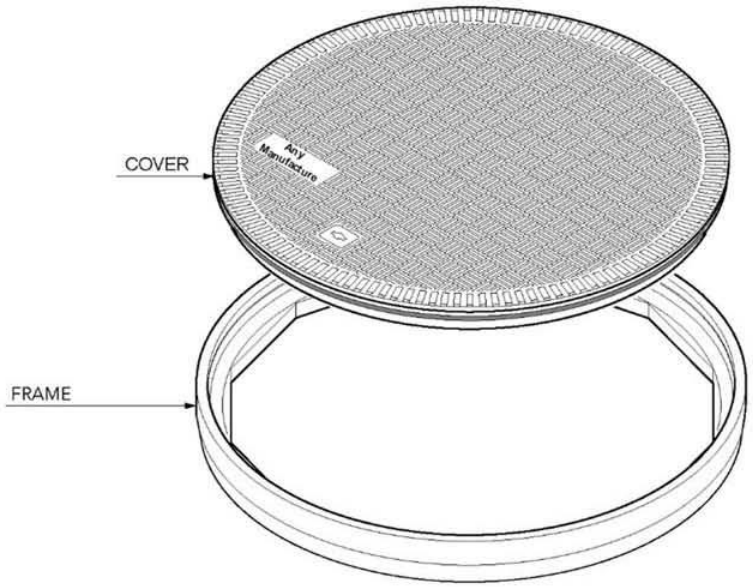


Figure 2E

Typical Phil-Tite Sump Configuration



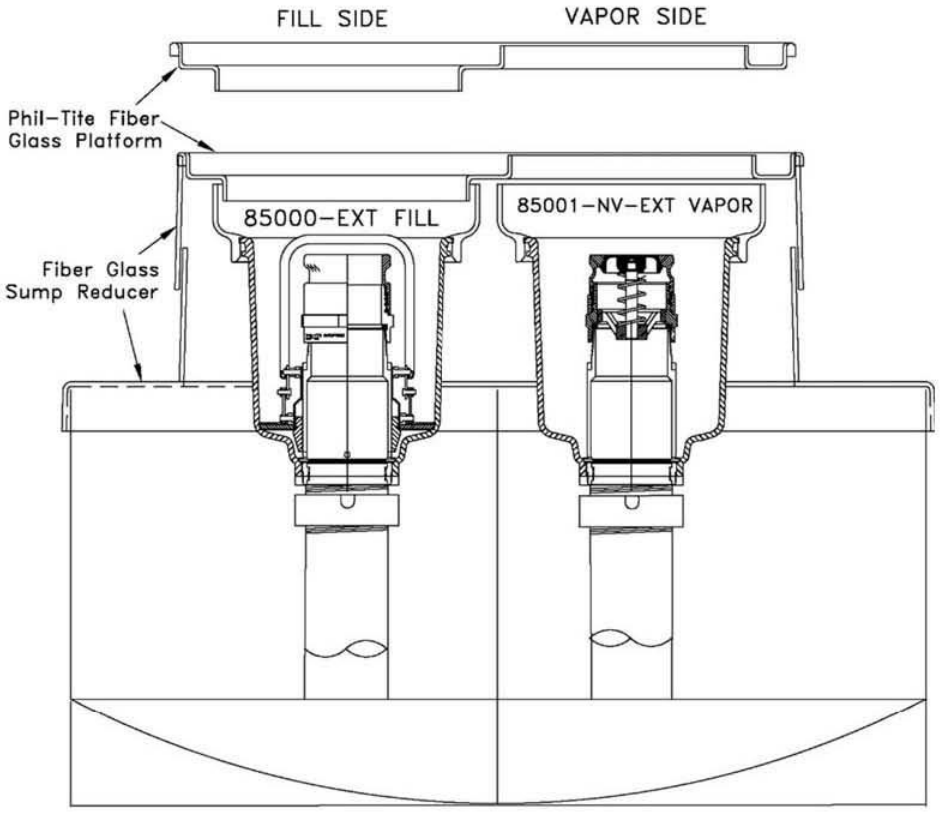
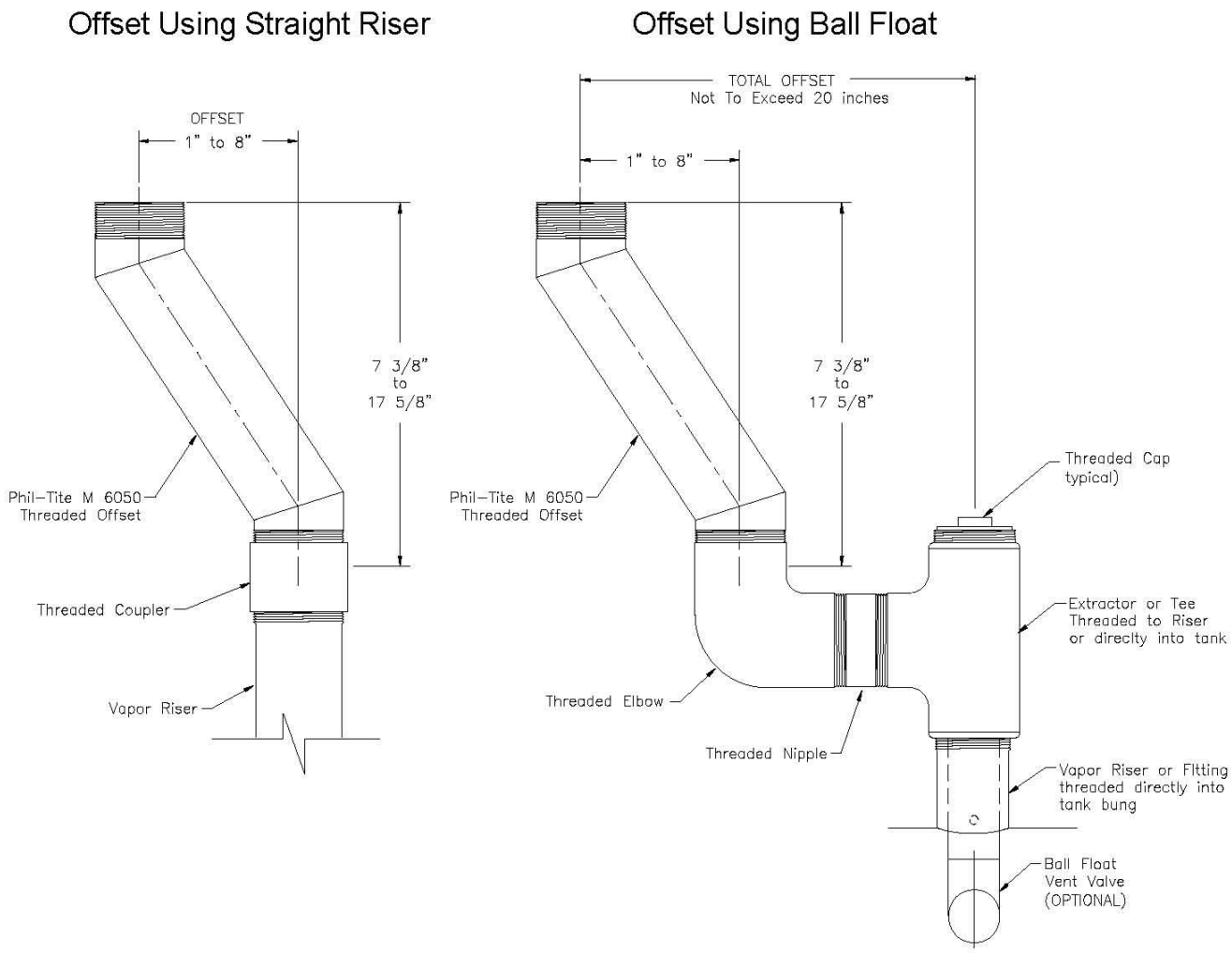


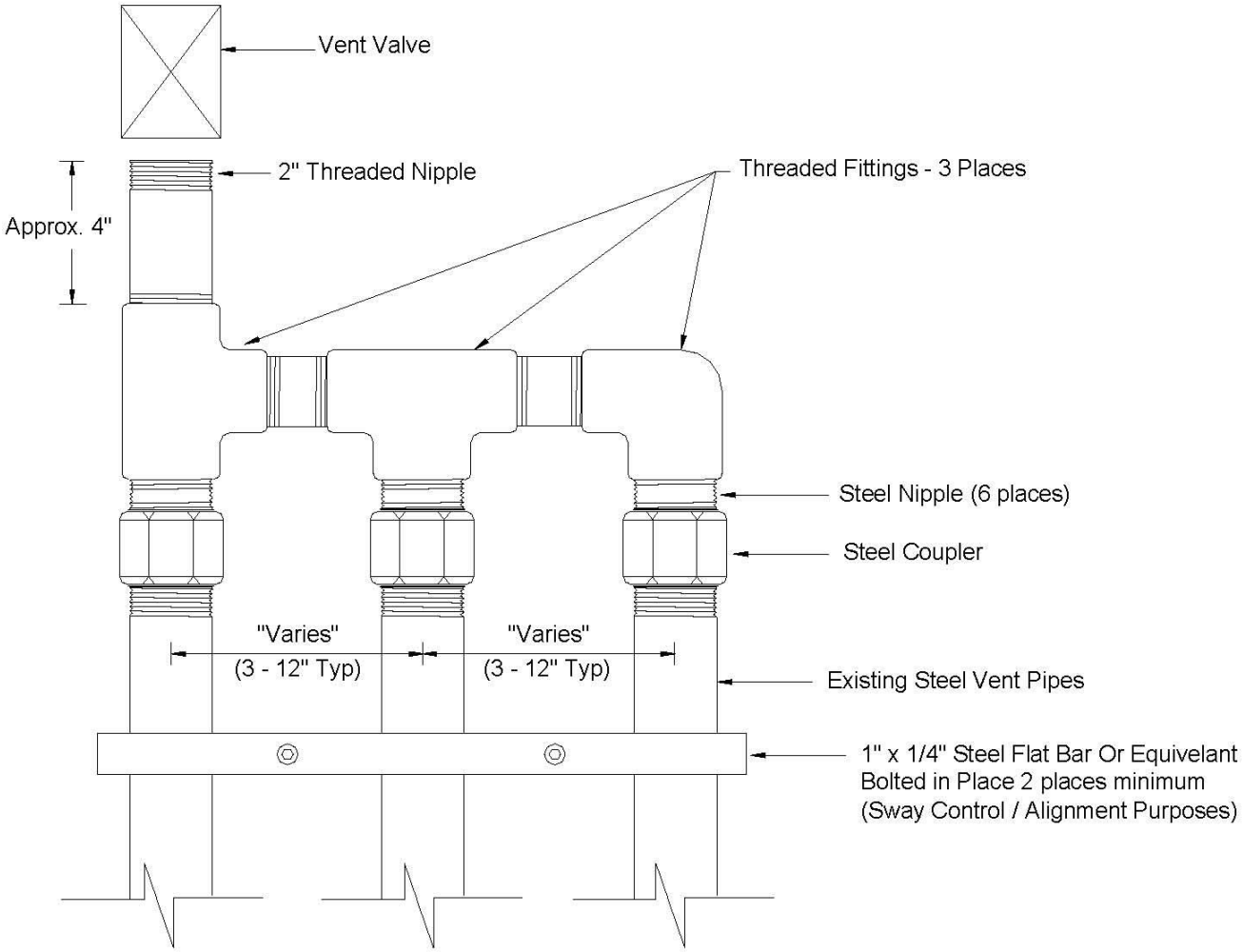
Figure 2F
Typical Phil-Tite Model M-6050 Vapor Recovery Riser Offset



Note: This figure represents one instance where a vapor recovery riser has been offset in order to construct a two-point Phase I vapor recovery system. The above figure illustrates an offset using a 90-degree elbow. However, in some instances, elbows less than 90 degrees may be used. All fittings and pipe nipples shall be 4-inch diameter similar to those of the spill container and rotatable Phase I adaptors in order to reduce back pressure during a gasoline delivery.

Figure 2G

Typical Vent Pipe Manifold



Note: This shows one typical configuration; other manifold configurations may be used. For example, a tee may be located in a different position, or fewer pipes may be connected, or more than one P/V valve may be installed on the manifold.

Figure 2H

Example of a GDF Phase I Maintenance Record

Date of Maintenance/ Test/Inspection/ Failure	Repair Date to Correct Test Failure	Maintenance/Test/Inspection Performed and Outcome	Affiliation	Name and Certification Technician Number of Individual Conducting Maintenance or Test(s)	Telephone Number

Exhibit 3

Manufacturing Performance Standards and Specifications

The Phil-Tite system and all components shall be manufactured in compliance with the performance standards and specifications in CP-201, as well as the requirements specified in this Executive Order. All components shall be manufactured as certified; no change to the equipment, parts, design, materials or manufacturing process shall be made unless approved in writing by the Executive Officer. Unless specified in Exhibit 2 or in the ARB approved Installation, Operation and Maintenance Manual for the Phil-Tite Phase I Vapor Recovery System, the requirements of this section apply to the manufacturing process and are not appropriate for determining the compliance status of a GDF.

Pressure/Vacuum Vent Valves for Storage Tank Vent Pipes

1. Each Pressure/Vacuum Vent Valve (P/V valve) shall be performance tested at the factory for cracking pressure and leak rate at each specified pressure setting and shall be done in accordance with **TP-201.1E, *Leak Rate and Cracking Pressure of Pressure/Vacuum Vent Valves*** *(October 8, 2003)*.

2. Each P/V valve shall be shipped with a card or label stating the performance specifications listed in Table 3-1, and a statement that the valve was tested to, and met, these specifications.

3. Each P/V valve shall have permanently affixed to it a yellow or gold label with black lettering listing the positive and negative pressure settings and leak rate standards listed in Table 3-1. The lettering of the positive and negative pressure settings and leak rate standards on the label shall have a minimum font size of 20.

Rotatable Product and Vapor Recovery Adaptors

1. The rotatable product and vapor recovery adaptors shall not leak.

2. The product adaptor cam and groove shall be manufactured in accordance with the cam and groove specifications shown in Figure 3A of CP-201.

3. The vapor recovery adaptor cam and groove shall be manufactured in accordance with the cam and groove specifications shown in Figure 3B of CP-201.

4. Each product and vapor recovery adaptor shall be tested at the factory to, and met, the specifications listed in Table 3-1 and shall have affixed to it a card or label listing these performance specifications and a statement that the adaptor was tested to, and met such specifications.

Spill Container and Drain Valves

Each Spill Container Drain Valve shall be tested at the factory to, and met, the specification listed in Table 3-1 and shall have affixed to it a card or label listing the performance specification and a statement that the valve was tested to, and met such performance specification.

Drop Tube Overfill Prevention Device

Each Drop Tube Overfill Prevention Device shall be tested at the factory to, and met, the specification listed in Table 3-1 and shall have affixed to it a card or label listing the performance specification and a statement that the device was tested to, and met, such performance specification.

Table 3-1
Manufacturing Component Standards and Specifications

Component	Test Method	Standard or Specification
Rotatable Phase I Adaptors	TP-201.1B	Minimum, 360-degree rotation Maximum, 108 pound-inch average static torque
Rotatable Phase I Adaptors	Micrometer	Cam and Groove Specifications (CP-201)
Overfill Prevention Device	TP-201.1D	≤0.17 CFH at 2.00 inches H_2O
Spill Container Drain Valve	TP-201.1C or TP-201.1D	≤0.17 CFH at 2.00 inches H_2O
Pressure/Vacuum Vent Valve	TP-201.1E	Positive Pressure: 2.5 to 6.0 inches H_2O Negative Pressure: 6.0 to 10.0 inches H_2O Leak rate: ≤ 0.05 CFH at +2.0 inches H_2O ≤ 0.21 CFH at -4.0 inches H_2O

Appendix B

Exhibit 4 of CARB Executive Order G-70-209

California Environmental Protection Agency

Air Resources Board

Vapor Recovery Test Procedure

Exhibit 4

Determination of Pressure in Underground Gasoline Storage Tanks

California Environmental Protection Agency
Air Resources Board

Vapor Recovery Test Procedure

Exhibit 4

Determination of Pressure in Underground Gasoline Storage Tanks

1. Applicability

Definition common to all certification and test procedures are in:

D-200 Definition for Vapor Recovery Procedures

For the purpose of this procedure, the term "ARB" refers to the California Air Resources Board, and the term, "ARB Executive Officer" refers to the Executive Officer of the ARB or his or her authorized representative or designee.

This test procedure is used to quantify the amount of pressure present in underground gasoline storage tanks (USTs) installed at gasoline dispensing facilities (GDFs) equipped with a Phase II vapor recovery system. This procedure is applicable to underground manifold tanks equipped with pressure/vacuum (P/V) valves, a two point Phase I vapor recovery system, and 4-inch vapor adaptors.

2. Principle and Summary of Test Procedure

The pressure of the USTs is determined at the Phase I vapor recovery adaptor (dry break assembly) with a vapor coupler test assembly as shown in Figures 2 and 3 of TP-201.3 (***Determination of 2 Inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities***) or dust cap test assembly. The test assembly is equipped with a center probe, which opens the dry break, and a quick connect fitting that is connected to an electronic pressure measuring device or digital manometer. The test assembly should open the dry break without venting the USTs. For the purpose of compliance determination, this shall be conducted at GDFs after commencing operation. This test can be performed while product is being dispensed into motor vehicles.

3. Range and Accuracy

3.1 The minimum full scale range for digital manometer shall be 0.00 to 4.00 inches WC. The minimum accuracy shall be ±0.5% full scale at 60 to 78 °F, and ±1.5% full scale at 32 to 60 °F and 78 to 104 °F.

3.2 The temperature measuring device shall have a maximum range of 0 to 150 °F and shall be accurate to within 2 °F.

3.3 The stop watch shall have an accuracy of 0.1 seconds.

4. Biases and Interference's

4.1 No transfer of gasoline from any cargo tanks to the USTs shall occur within three hours prior to conducting this test.

4.2 Leaking vapor adaptors will not allow test assembly to achieve a leak tight seal.

4.3 This test shall not be conducted if A/L testing was conducted within the last 24 hours.

4.4 GDF's not capable of passing TP-201.3 shall be excluded from this test.

4.5 This test shall not be conducted if TP-201.3 was conducted within the last three hours.

4.6 Improper connection of dust cap or vapor coupler test assembly can result in accidental discharge of vapor due to positive pressure in UST's. Wait ten (10) minutes before retesting.

4.7 Temperature fluctuations during test period can result in erroneous values. All testing must be avoided when temperature differences exceeds 5° F.

5. Equipment

5.1 The dust cap test assembly shall be modified in the following manner:

5.1.1. Tap, thread, and install a ¾ inch NPT threaded probe in the center of the dust cap (Figure 1). The probe shall be of sufficient length to open approximately ½ inch of the dry break while allowing the cap to maintain a leak tight seal on the adaptor.

5.1.2. Tap, thread and install a ¼ inch NPT female quick connect fitting on the top of the dust cap, offset from the center probe (Figure 1). A Swagelok, part number SS-QC4-B-4-PM, quick connects fitting or equivalent is required.

5.1.3. Use approximately 24 inches of ¼ inch (internal diameter) clear "Tygon tubing" or equivalent to connect the manometer to the dust cap (Figure 2). Install a ¼ inch male quick connect fitting, Swagelok part number SS-QC4-5-400 or equivalent, on one end of

a ferrule stainless steel tube (1/8 inch internal diameter) of approximately 1.5 inches. Connect one end of the "Tygon tubing" to the stainless steel tube and connect the other end to the digital manometer (Figure 2).

5.2 Alternatively, the vapor coupler test assembly, Figures 2 and 3 of TP-201.3 may be used in lieu of the dust cap test assembly.

5.3 Digital Manometer (Electronic Pressure Measuring Device)

Use a 0 - 4.00 inches WC digital manometer to monitor the UST pressure with a minimum sensitivity of 0.01 inches of WC. Dwyer Series 475 Mark III model 475-00-FM (0-4.00 inches WC) Digital manometer or equivalent is required. A copy of the manufacturer's operating instruction shall be kept with the equipment.

5.4 Vacuum Grease or Petroleum Jelly

Use commercially available vacuum grease or petroleum jelly to apply to the dust cap or vapor coupler test assembly gasket to maintain good seal.

5.5 Soap Solution mixture with spray bottle or "Snoop."

5.6 Temperature gauge or thermometer capable of measuring ambient temperature with a resolution of 2°F.

5.7 Stop watch with accuracy of 0.1 seconds.

6 Calibration Requirements

A copy of the most current calibration shall be kept with the equipment to verify that the calibrations have been done appropriately.

6.1 Digital manometer shall be bench calibrated using a reference pressure measuring device or incline manometer. Calibration shall be performed at 20, 50, and 80 percent of full scale. Accuracy shall be within two percent at each of these calibration points. Calibration shall be conducted on a frequency not to exceed 180 days.

6.2 The temperature measurement device shall be checked at an interval not to exceed 180 days using an ice bath, ambient air, and boiling water. The accuracy of the temperature measuring device shall be checked against an NIST traceable temperature measuring device.

7 Pre Test Procedures

7.1 Turn on digital manometer and allow instrument to warm up for five minutes.

7.2 Zero out digital manometer using adjustment pod on top of instrument in accordance with manufactures instructions. Drift may be minimized by re-zeroing immediately after use by venting both pressure port to atmosphere and adjusting the knob until the display reads exactly zero.

7.3 Apply thin layer of vacuum grease or petroleum jelly to gasket located under the dust cap or vapor coupler test assembly.

7.4 Attach male quick connect fitting of pressure line to cap.

7.5 Attach digital manometer to open end of Tygon tubing.

7.6 Ensure that the power to the Permeator is on.

8 Test Procedure

8.1 Attach the dust cap or vapor coupler test assembly to the vapor adaptor (Figure 2).

8.2 Apply soap solution to the dust cap or vapor coupler test assembly and vapor adaptor and check for visual leaks.

8.3 If no leaks are detected within two minutes after applying soap solution, proceed with monitoring pressure for ten minutes and record on Form 1 the time, pressure, and whether the processor is on.

8.4 Record temperature at the beginning and end of test period on Form 1. This test will be invalid if temperature differential exceeds 5° F.

9. Reporting Results

Report pressure data and other information as required in Form 1. District may require the use of alternate forms, provided they include the same minimum parameters as identified in Form 1.

10. Alternate Procedures

This procedure shall be conducted as specified. Any modifications to this test procedure shall not be used unless prior written approval has been obtained from the ARB Executive Officer, pursuant to Section 14 of CP-201.

Figure 1: Typical Modified Vapor Adaptor Dust Cap (Bottom View)

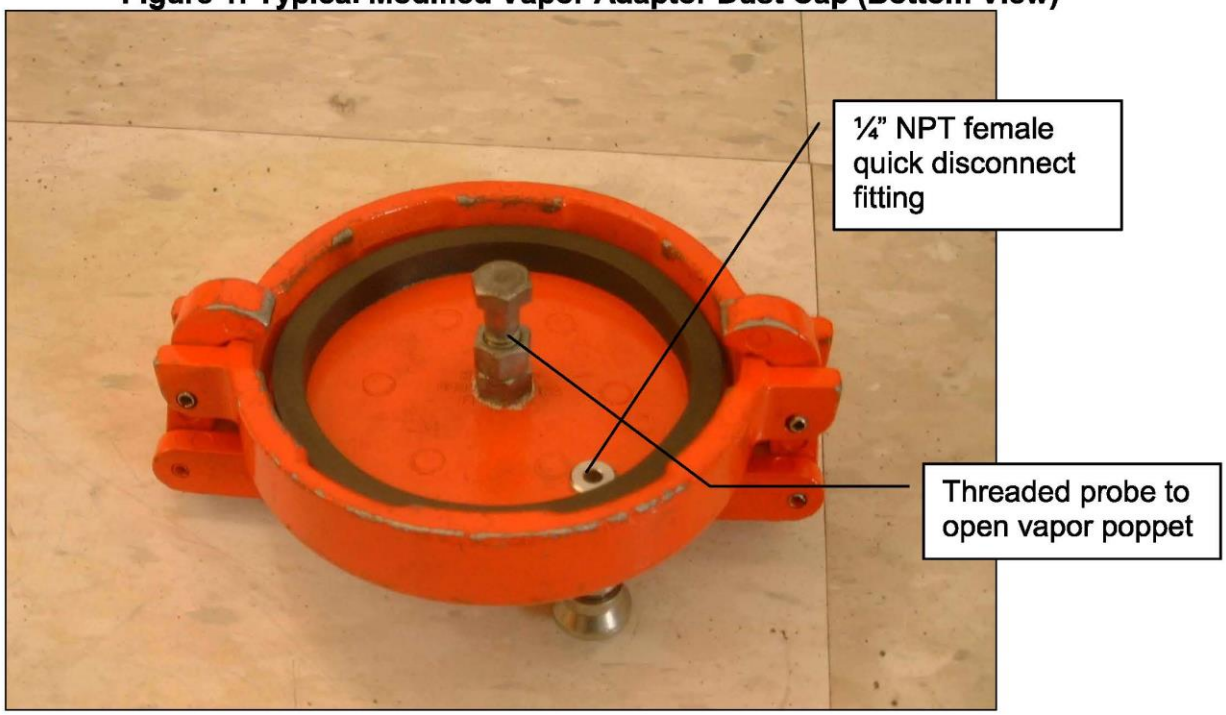


Figure 2: Typical Field Installation of UST Pressure Measurement Assembly

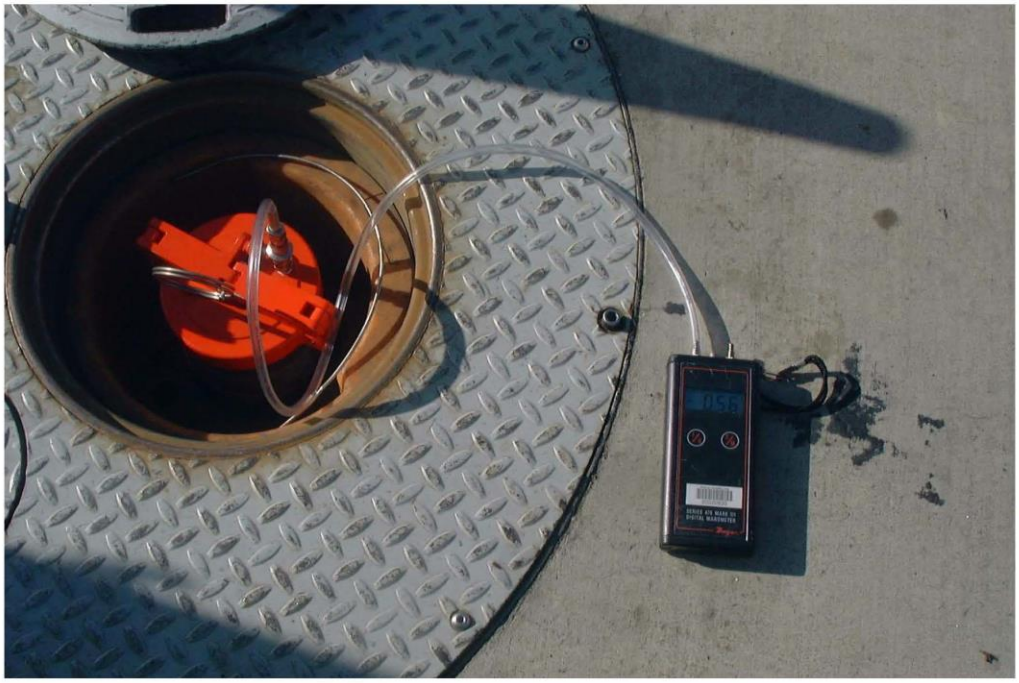


Exhibit 4 Form 1
Data Sheet for Determination of Pressure In Underground Gasoline Storage Tanks

Facility Name:			Test Time:		Test Date:
Address:					
City:					
Testing Company :			Testing Company Address		
Person Conducting Test:			Testing Company Phone Number		
Initial Ambient Temperature [°F]:			Final Ambient Temperature [°F]:		

Observed Underground Storage Tank Pressure

Time	Pressure (In H_2O)	Processor On?	Time	Pressure (In H_2O)	Processor On?

Comments:

Appendix C

Exhibit 15 of CARB Executive Order VR-201-AC

Executive Order VR-201-AC and
VR-202-AC Assist Phase II EVR System

EXHIBIT 15

ARID Technologies AT-150 Permeator Compliance Test Procedure

Definitions common to all certification and test procedures are in:

D-200 Definitions for Vapor Recovery Procedures

For the purpose of this procedure, the term "CARB" refers to the California Air Resources Board, and the term "CARB Executive Officer" refers to the Executive Officer of CARB or his or her authorized representative or designate.

1. PURPOSE AND APPLICABILITY

1.1 This procedure will determine the exhaust concentration of the ARID Technologies, Inc. (ARID) Permeator AT-150 (Permeator) processor installed at gasoline dispensing facilities (GDFs) using a portable hydrocarbon analyzer (HC Analyzer) calibrated with known hydrocarbon concentration (propane) calibration gases.

1.2 This procedure is applicable for compliance testing.

1.3 The station must be closed while conducting this procedure.

2. PRINCIPLE AND SUMMARY OF TEST PROCEDURE

Known concentrations of certified calibration gases are flowed through the HC analyzer to verify accuracy of hydrocarbon measurement prior to testing the Permeator. Next, the HC analyzer is connected to the Permeator exhaust line testing port. Continuous sampling through the HC analyzer is done during normal processor operation. Sampling of Permeator exhaust is conducted continuously through at least one normal 40-minute run cycle with at least five (5) HC analyzer measurements being made at 5-minute intervals beginning 10 minutes after Processor ON. The average of the five measurements is then compared to a maximum measurement based upon allowable HC concentration of the Processor during operation and the accuracy of the HC analyzer.

3. BIASES, INTEFERENCES AND RECOMMENDATIONS

3.1 Pressure growth at a GDF is variable and can depend on many factors, including but not limited to fuel volatility, Phase I cargo tank deliveries, time of day and operational hours. If there is minimal pressure growth when conducting this test procedure, it could result in insufficient data to calculate processor performance.

3.2 This test cannot be conducted while the GDF is actively dispensing fuel.

3.3 Running report IV8000 off the TLS-350 will list the Permeator On/Off and runtime for each cycle. This information can narrow down the best times to conduct the test.

3.4 Ambient temperature fluctuations can affect the Hydrocarbon Analyzer.

3.5 This test procedure may be conducted after a leak decay test (TP-201.3) by using the Permeator AT-150 to remove the pressure in the UST system instead of venting the station to atmospheric pressure.

4. EQUIPMENT AND SUPPLIES

4.1 Pressure regulators for the calibration check gas cylinder and inlet test gas cylinder.

4.2 Flow meter, with flow control valve (optional if the Portable Hydrocarbon Analyzer has one)

Use a Dwyer Model RMA-4-SSV, or equivalent flow meter capable of adjusting calibration gas flow so that the flow measurement on the HC Analyzer is steady at 2 standard cubic feet per hour (SCFH).

4.3 Calibration Gases

Cylinders of calibration gases using propane in nitrogen listed below.

(1) High-Range Gas: Concentration between 5-10% by volume.
(2) Low-Range Gas: Concentration between 2-4% by volume.

4.4 Zero Gas

Cylinder of nitrogen with a minimum purity level of 99.998%.

4.5 Stopwatch with an accuracy of ± 0.2 seconds.

4.6 Gasoline resistant hoses, fittings and connectors.

4.7 Portable NDIR hydrocarbon analyzer, 0 to 100 percent range, with a minimum accuracy of ± 2.0 % of full scale, such as Nova Model 317WP (with NDIR HC sensor) or equivalent. Only an NDIR analyzer calibrated to propane may be used for this test. The manufacturer operating instructions for the HC analyzer and proof or evidence that the sensor is NDIR shall be kept with the equipment at all times so that proper procedure can be verified.

5. CALIBRATIONS

The calibration gases must be certified according to the following:

To an analytical accuracy of ± 2%, traceable to a reference material approved by the National Institute of Standards and Technology (NIST) and recertified at least every two years.

Information on calibration gas cylinders shall be entered into a log identifying each cylinder by serial number. Documentation of certification shall be maintained with the gas cylinders at all times and shall also be attached to Form 1. The calibration gas log shall be maintained with the gas cylinders at all times and made readily available to the district upon request. Sufficient information shall be maintained to allow a determination of the certification status of each calibration gas and shall include: (1) the date put in service, (2)

assay result, (3) the dates the assay was performed, and (4) the organization and specific personnel who performed the assay.

6. PRE-TEST REQUIREMENTS

Install all required testing apparatus as illustrated in Figure 1. Connect the calibration test gas to the inlet of the HC sensor. Install the outlet tubing to the HC sensor outlet tee. This tubing is used to vent off calibration gases and processor exhaust to atmosphere away from testing personnel.

6.1 Pre-Test HC Analyzer Calibration:

6.1.1 Follow the HC Analyzer manufacturer procedures for instrument start-up and warm-up.

6.1.2 Check the zero reading of the HC analyzer using nitrogen following the manufacturer's procedure. If the result is ± .10%, re-zero the instrument per the manufacturer's recommended procedures. Record the zero gas calibration gas concentration (% propane) on Form 1.

6.1.3 Set the span on the instrument to the HC concentration of the High-Range calibration gas cylinder.

6.1.4 Check the calibration of the HC analyzer by running the calibration check gas following the manufacturer's procedure. Record the High-Range calibration gas concentration on Form 1. If the result is outside of the required range, then the analyzer shall be recalibrated per manufacturer specifications prior to conducting the test.

6.1.5 Check the Low-Range calibration of the analyzer by running the low-end calibration gas per the manufacturer's procedure. If the result is outside the minimum instrument accuracy as stated in section 4.7, then the analyzer shall be recalibrated per manufacturer specifications prior to conducting the test. Record the Low-Range range calibration gas concentration on Form 1. After a minimum of 10 minutes, record the reading on the instrument.

7. TEST PROCEDURE

7.1 Compliance Procedure:

7.1.1 Install a section of tubing from the Permeator Exhaust Test Port (See Figure 2) into the HC Analyzer and turn on the analyzer sample pump. Set the inlet test gas flow rate to 2 scfh. Adjust the flow rate as necessary during the test to maintain the correct flow rate. If the flow is lower than 2 scfh, verify that there are no kinks or obstructions in the tubing. If the flow is still lower than that, consult the manufacturer of the HC Analyzer for troubleshooting sample pump operation.

7.2.2 If the Permeator is running, begin a stopwatch and wait ten (10) minutes. If the Permeator is Off, wait until it starts and then begin a stopwatch and wait ten (10) minutes. After either of these 10 minute periods, record the HC Analyzer reading and the time on Form 1.

7.2.3 Continue recording HC Analyzer readings and time in 5-minute increments for 20 minutes (5 recordings total). Record these readings and times on Form 1. If the Permeator shuts off before 5 readings, repeat sections 7.2.2 and 7.2.3 until completed.

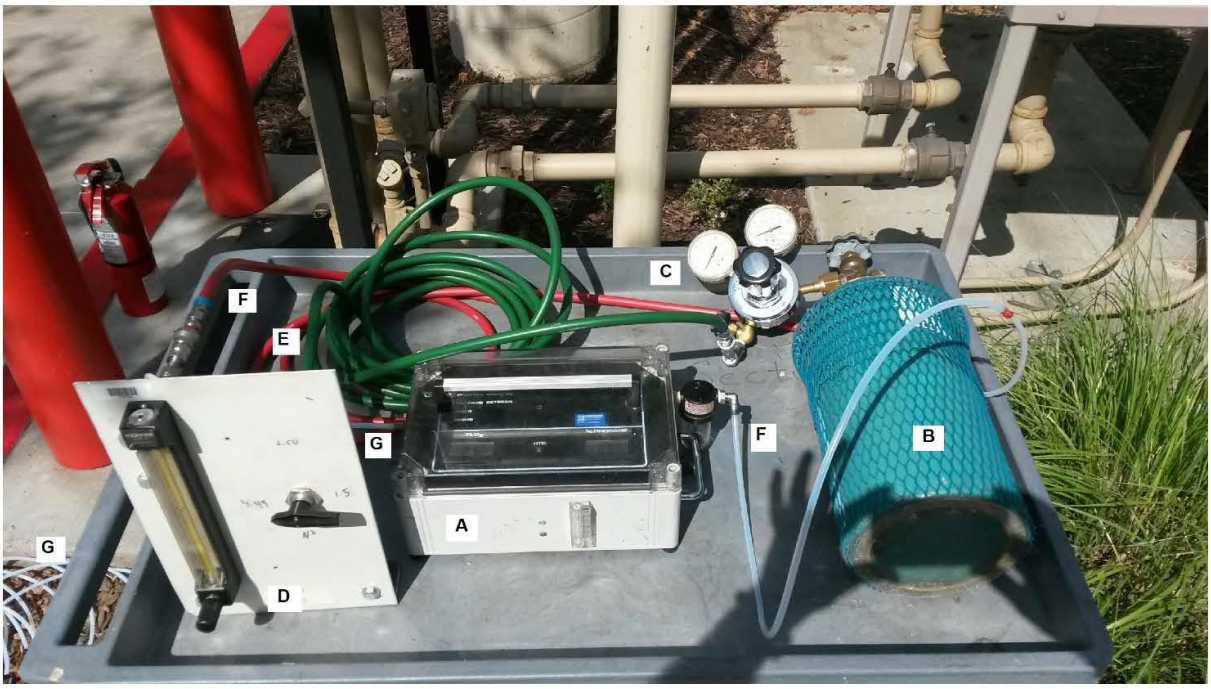
7.2.4 Calculate the average HC concentration from the 5 readings and record this on Form 1.

7.2.5 If the HC concentration average is less than or equal to 3.0%, record the compliance test as a "Pass". If the concentration average is greater than 3.0% HC, record the compliance test as a "Fail". If a failure is recorded, the ARID Permeator AT-150 is not in compliance with Exhibit 2.

8. ALTERNATIVE TEST PROCEDURES

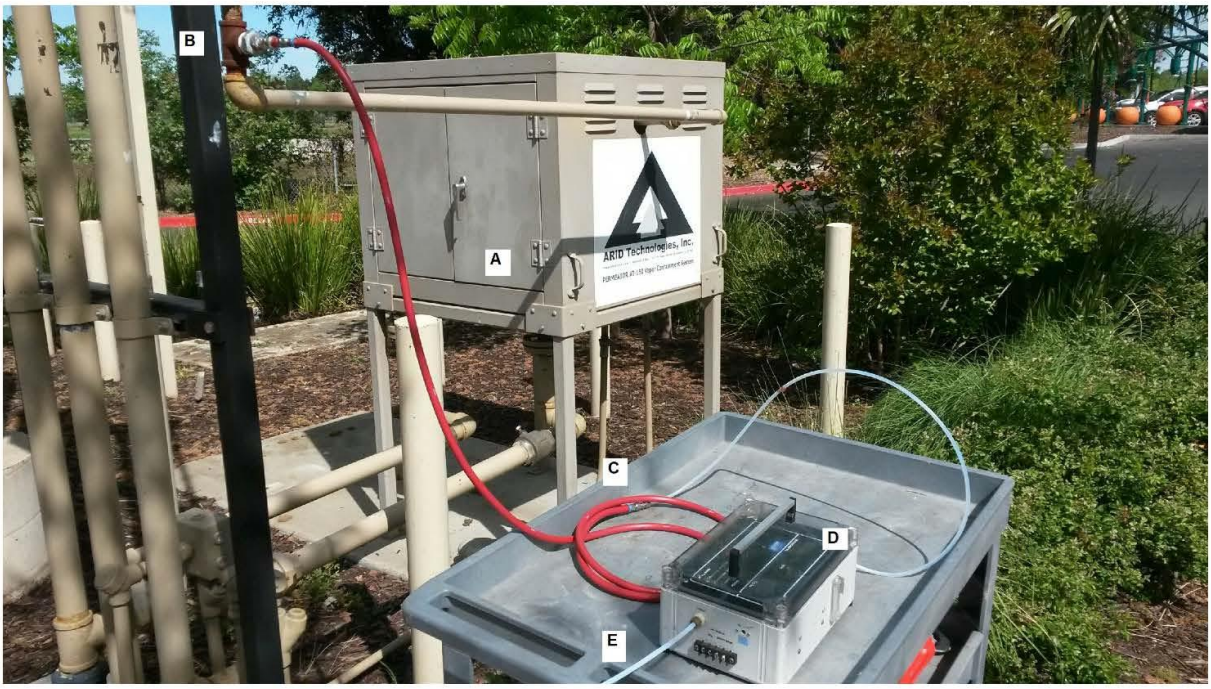
This procedure shall be conducted as specified. Modifications to this test procedure shall not be used to determine compliance unless prior written approval has been obtained from the CARB Executive Officer or delegate, pursuant to Section 14 of Certification Procedure CP-201.

Figure 1
Equipment Configuration for HC Analyzer Calibration



A – HC Analyzer
B – Calibration or Zero Gas Cylinder
C – 2-Stage Regulator
D – Flow Meter with Flow Control Valve
E – Calibration Gas (Green) Hose to Flow Controller
F – Calibration Gas (Red) Hose from Flow Controller to HC Analyzer Inlet
G – HC Analyzer Exhaust

Figure 2
Equipment Configuration for Measuring Permeator Exhaust



A – Permeator AT-150
B – Exhaust Test Port Tee (1" NPT)
C – Hose from Exhaust Test Port to HC Analyzer Inlet
D – HC Analyzer
E – HC Analyzer Exhaust

Form 1

ARID Permeator AT-150 Processor Compliance Verification Data Sheet	
Facility:	Test Company:
Address:	Test Personnel:
City:	Certified Permeator Technician (CPT) Certification # (as applicable)
State:	
Zip Code:	ICC or District Training Certification (as applicable)

Calibration Gas Concentration (% Propane). Note: Calibration gas information listed in Section 4 of Exhibit 15 shall be attached to this form.		
Zero Gas:	High-Range Gas:	Low-Range Gas:
Serial #:	Serial #:	Serial #:

Test Results

Measurement	Time of Measurement	HC Analyzer Reading	Average of Measurements	Maximum Average HC Allowed	Pass/Fail
1					
2					
3				≤ 3.0%	
4					
5					